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*OCTOBER, 1881.*

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*All Communications to be addressed to the Editor, Dr. SAUNDBY, Newhall Street, Birmingham.*

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## THE MEDICAL SCIENCES.

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THE
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# REVIEWS.

## THE ETIOLOGY OF CARDIAC VALVULAR LESIONS.

RECENT observations on the pathogenesis of cardiac and vascular diseases have thrown some new light upon the nature, if not upon the absolute causation of such processes. These are of interest, not only to the pathologist, but also to the physician, and it is our present purpose to bring together certain facts bearing upon the origin of these changes.

In the following remarks only organic disease of the valves will be dealt with. Relative incompetence of the valvular mechanism does not enter within the scope of the present article, and may be dismissed in a word. Any state inducing deficient nutrition of the cardiac muscle, either absolutely or in relation to the amount of work to be performed, will produce in the end incompetence by dilatation of the orifices. All febrile conditions, and every instance of anæmia, bear witness to the fact, and it is now so universally admitted that no further notice of it is required.

Turning to lesions of the valves, it will be well to take up the various changes *seriatim*, but giving necessarily very unequal attention to the different forms of disease. Rokitansky gives the following classification of valvular diseases :—

1. Defective and excessive formation.
2. Hypertrophy and atrophy.
3. Anomalies of form.
4. Anomalies of consistence.
5. Separations of continuity.
6. Diseases of texture.
    *a.* Inflammation.
    *b.* Adventitious structures.

This classification has the merit of extreme conciseness, but it does not include all our knowledge of valvular disease, and therefore we shall not adhere to it, but discuss the subject according to the annexed order:—

I. Diseases of valves,
    1. Malformations.
    2. New formations.
    3. Hæmorrhages.
    4. Degenerations.
    5. Inflammations.
II. Injuries of valves.

The great storehouse of information regarding malformations of the valves, as well as of the heart generally, is still to be found in the writings of Peacock. To the facts which he has made known nothing has to be added. The number of valve segments may be excessive, apparently by failure of union of the component parts, or they may be too few from the junction of two or more segments along their adjacent edges. Sometimes all the segments are thus united, leaving but a small orifice. In any such case of union, there is usually evidence of it in the form of a more or less evident ridge, marking the place of fusion. Whether such cases are caused by perverted development, or by intra-uterine endocarditis is of small moment, the undoubted fact remains that they are congenital. Those cases in which the valve segments are too numerous, cannot be caused otherwise than by arrest of development.

During recent years a considerable amount of information has been obtained on the subject of new formations. This has been embodied in an admirable paper by Garel, which lately appeared. He points out that a large number of intra-cardiac tumours have been placed on record, especially by Choisy, Aran, and Caron, but that these have not yet found their way into the pathological text-books. The vast majority of these tumours belonged to the left side of the heart. Burns described a tumour of the right side of the heart, but it was attached to the interior of the auricle, and, although it projected into the ventricle, had no connection with the valvular mechanism. The same remark applies to Gairdner's case of pediculated tumour of the right auricle—a case most interesting on account of tricuspid stenosis having been diagnosed ten years before the patient's death. Pigué, quoted by Garel, placed on record an instance of small tumours of the tricuspid valve, and Debove, also referred to by Garel, described a case of myxoma of the tricuspid valve. These instances sum up the amount of our experience of non-inflammatory new formations affecting the right side of the heart, but, as already remarked, such tumours are relatively common on the other side of that organ.

In Rokitansky's work, the adventitious structures mentioned are said to be "almost entirely limited to the occurrence of fibroid tissue and anomalous osseous substance," and these are described as being caused by hypertrophy or inflammation, with secondary changes in the products so arising. "Atheromatous disintegration of newly deposited endocardium" is also included under the same head, which finally also embraces carcinomatous vegetations. Not a word is given to new formations independent of inflammation and diathetic conditions in this or in any other text book, but enough has been said in this article to show that although thus ignored by authors they are not unknown to pathologists.

An entirely new chapter on the subject of valvular lesions has just been written. When prosecuting an inquiry into the relative resistance of the cardiac orifices and valves, the author of this article stumbled last year upon a small tumour attached to the tricuspid valve of a sheep's heart. It projected from the auricular surface, was of a purple hue, and had the size of a small pea. On microscopic investigation it was found to be a blood-clot occupying the fibrous structure of the valve. It was quite free from the least trace of inflammation, the endocardium being perfectly healthy, and the fibrous tissue entirely destitute of any inflammatory products. The examination showed a cross section of the small vessel from which the hæmorrhage had proceeded, and also demonstrated that the clot was undergoing a fibrous transformation. Taken by itself this instance would be of comparatively small value, but its publication was speedily followed by a case of much interest. Garel, in the excellent paper already referred to, has recorded the case of a man whose tricuspid valve was the seat of a similar extravasation, causing a large projection from the surface of the valve. The tumour was of mushroom form, and was associated with some vegetations, so that there may have been an inflammatory affection involving one of the vessels of the valve. Whether spontaneous or caused by erosion of the vascular walls there can be no question regarding the nature of the tumour. The minute account of the microscopic appearances given by Chandelux proves that it was composed of coloured blood corpuscles undergoing a fibroid change, and giving indications finally of calcareous infiltration. In the words of Garel, "de ce qui précède, nous croyons pouvoir conclure, avec M. Chandelux, qu'il s'agit d'un épanchement sanguin formé dans l'épaisseur des lames valvulaires et subissant les transformations successives qui doivent aboutir à la production de tissu fibreux. Cette tumeur offrant déjà, de distance en distance, des îlots d'infiltration calcaire, nous avons cru devoir la désigner sous le nom *d'hématome valvulaire en voie de calcification et de transformation fibreuse*."

These two observations open up a new field of inquiry, but it would at present be premature to suggest that intra-valvular hæmorrhage may be the starting point of other diseases of the valves. It is, however, quite possible that such may be the case, and further investigations are required on the subject.

As regards the causation of such extravasations, it appears probable that when the valves are subjected to any severe strain from excessive cardiac action there will be a tendency to rupture of their vessels, a tendency no doubt kept in check by the density of the fibrous texture surrounding them, but which will at once have full play if by extreme tension there should be any weakening of the elasticity of the valves. It must be admitted, nevertheless, as somewhat inexplicable, that both these cases were extravasations into the tissue of the tricuspid valve, which so readily yields to an excess of pressure in the pulmonary circulation, and we must wait for future observations.

In the next place, degenerations must be considered, and here we must bring in atheroma instead of leaving it among the new formations. The subject of atheroma has been so well thrashed that but small room seemed left for a new labourer, and yet the most recent contributions to this branch of pathology may be said to go beyond all that has hitherto been written on it. In a recent paper Martin brings forward some new facts of much interest. It is not necessary here to pass in review the various opinions which have been expressed regarding the atheromatous process; it need only be remarked in passing that two views have been advanced as to the initial stage of the morbid change. The first of these regards the process as being of inflammatory origin, the products of inflammation ultimately undergoing fatty degeneration; and the second considers the change as being from the first a degeneration. In no work dealing with the question does the causation of the lesion receive consideration.

Martin adopts the view expressed by Cornil and Ranvier that the first stage is quite passive, and that in the commencement of the process the internal tunic exhibits a collection of fat globules, amongst which may be seen vestiges of nuclei recognisable by their coloration on staining with carmine. To this first period there succeeds a stage of chronic inflammation, according to these authors, set up by irritation through the contiguity of the necrosed part. This opinion is also espoused by Martin.

He begins by considering the relation of cirrhosed viscera to the circulatory apparatus in old age, or chronic alcoholism, where great vascular changes are present; points out that the inner tunic, not only of the arteries, but of the arterioles, and even of the capillaries, is the seat of great hyperplasia, and urges that the visceral changes are consequent upon the vascular thickening, which greatly interferes with the circulation. In a similar way he believes atheroma to be caused.

Little attention has been given to the *tunica externa* by the majority of authors, and thus the immediate cause of atheroma has been left unexplained. It reveals a notable fact. By the deeper aspect of this tunic the nutritive arterioles of the wall of the vessel enter. They are always healthy, with the exception of those which correspond to the atheromatous patch. Opposite that area the nutritive arteriole belonging to it presents proliferating endarteritis, which frequently obliterates the entire lumen of the vessel.

Martin states that this fibrous endarteritis is always present in atheroma, and gives a drawing taken from a case. It seems difficult to contest, as he remarks, the relationship as to cause and effect between the endarteritis and the atheroma in the face of the evidence in support of it, and we are inclined to agree with him in regarding atheroma "qu'une simple nécrobiose par insuffisance vasculaire."

It is true that Martin's observations were not made upon the valves of the heart, and therefore do not apply directly to the matter immediately in hand; but if atheroma of the arterial walls is always caused in this way, it must beyond all question arise in a similar manner when it affects the valves. No doubt fatty degeneration of the products of inflammation does occur, but it would be well for the future to separate such a secondary degeneration from primary atheroma.

Amongst inflammatory diseases of valve texture Rokitansky gives, 1. Redness, 2. Opacity, 3. Softening, 4. Exudations in valves, and 5. Vegetations on valves. The terminations of inflammation of the valves, according to the same writer, are 1. Thickening, 2. Shrivelling, 3. Adhesion, and 4. Concretion; to which he appends Aneurism of valves. Our business with those changes at present is to investigate their causes.

At the outset we are confronted by the rheumatic origin of endocardial inflammation. It is an undoubted fact that rheumatism is the most prolific source of such inflammation, but the relative proportion of cardiac to rheumatic affections is uncertain. Thus Bouillaud, quoted by Pierson, states that 80 per cent. of cases of acute rheumatism are complicated by endocarditis. Latham gives a ratio not quite so high, for, on adding up his figures, we find that 54.40 per cent. of his patients who suffered from acute rheumatism had as a sequel inflammation of the endocardium. Fuller, quoted by Hayden, states that of 379 cases of acute and subacute rheumatism admitted into St. George's Hospital, 174, or 45.91 per cent., suffered from endocardial mischief. On the other hand, Bamberger, also quoted by Hayden, only found endocardial affections in about 20 per cent. of cases of articular rheumatism. Latham says it was suggested to him that perhaps his clinical clerks had brought together more than the usual proportion of "interesting cases," which might account for the frequency of endocarditis; and Fuller admits that there could be no doubt that many of his cases had only a murmur of relaxation, such as would of necessity arise in any other febrile condition. We are certainly inclined to regard Bamberger's statement as much nearer the mark than either of the other authors. Even it shows the frequency of endocardial sequels to rheumatic attacks.

From the converse of such observations much is to be learned. The writer has recently analysed his cases of valvular disease, in order to discover the relative frequency of the rheumatic origin of cardiac lesions, and the results may be referred to in this place. The total number of cases was 134, of which 51 had personally suffered from rheumatism in some form, and 7 were of rheumatic families; in all 58 patients had a history of rheumatism. Of the remainder, 34 had a distinct history of entire freedom from rheumatic taint, and 42 had no distinct history at all. Leaving the cases whose history was not attainable out of account, there were 92 patients, 58 of whom, or 63.05 per cent., were rheumatic, and 34, or 36.95 per cent. non-rheumatic.

There is little doubt that exanthematic diseases play a very important part in the production of valvular disease. First in importance amongst these is scarlatina. Thus Hayden says, "amongst the hæmic causes of disease of the heart I regard the poison of scarlatina as next to rheumatism in frequency, and perhaps superior to it in potency. It attacks the endocardium by preference, seldom engaging the pericardium, and more frequently the mitral than the aortic valve." Measles and small-pox likewise frequently induce cardiac mischief, but by no means so often as scarlatina. Septicæmia, it is well known, is commonly complicated by the co-existence of endocarditis especially implicating the valves, and many other blood diseases are also important but less frequent factors in the causation of valvular diseases, and in this connection the lithic acid diathesis and alcoholism should be considered.

All of these causes operate by means of irritant principles contained in the blood. Their action is probably twofold. In the first place the whole organism is in a condition of enfeebled resistance and imperfect nutrition, a state which the heart must share in, and therefore be liable to morbid changes on excitation. Further, the parts directly exposed to the deleterious influence of the vitiated blood are chemically or mechanically irritated by them and become inflamed. Moreover, in alcoholism at least another factor is always introduced. This is excessive action of the heart, involving an extra strain on the valves.

It does not seem to us that simple malnutrition has been proved in any case to be a cause *per se* of valvular disease except in conjunction with this last mentioned factor, strain on the valves. We shall, therefore, glance next at it.

The aortic valves very frequently suffer in men who are engaged in occupations requiring great muscular effort, especially when this is associated with compression of the chest, much additional strain being in this way thrown upon the systemic valves. On this subject Allbutt's views command in the main our unqualified assent. Such cases are of frequent occurrence in those districts where the major operations of the iron and similar trades are carried on. In this place we may recall the observation of Adams that the valves of the left side of the heart suffer, on account of their more perfect closure, infinitely more than those of the right side, which yield to exaggerated pressure, and therefore escape many evils.

Bright's disease in its chronic form is in a large proportion of cases accompanied by cardiac changes. The hypertrophy is no doubt due to arterial and capillary resistance, but the valvular lesions are probably in part due to the changes in the blood which must induce a certain amount of malnutrition of the valves. According to Roberts, of 406 autopsies of renal disease, 54 showed valvular disease, that is 13.30 per cent. This we regard then as one disease which induces valvular lesions partly by interference with nutrition, and partly by increased strain on the valves.

Anæmia must be placed in the same category. This affection not infrequently induces valvular disease as a sequel to its other cardiac phenomena. Probably, in some quarters, this statement will be received with incredulity; nevertheless, we are positive on the point. In this belief we are strengthened by the opinion of Goodhart to the same purpose, but we differ from him somewhat in the interpretation of its causation. In his own words, Goodhart thus gives his view as to the anæmic origin of valvular disease—"Anæmia leads to fatty changes in the heart. Fatty changes in the heart favour dilatation of the left ventricle. Dilatation of the left ventricle disarranges the coaptation of the mitral flaps, and mitral regurgitation results, the so-called curable regurgitation. But if this regurgitation is prolonged for any length of time, or is frequently repeated, as is not unusually the case in many instances of chlorosis, surely from the passage of blood in two directions instead of one, and particularly when the backward stream is such a twisted and rough stream, if I may use such a term of fluid, as is the regurgitant mitral stream, there must be a considerable increase of friction or wear and tear to the valve, and chronic disease of the tissue of the valve is started, which by and by—it may be years after the original cause has ceased—leads to permanent thickening and disease of the valve."

It seems to us that a better explanation of the occurrence of valvular disease in anæmia lies in the two facts, that in this affection there is impairment of nutrition, and therefore a proneness to changes in all organs; and further, that in addition there is increased resistance to the circulation from a lowering of the *vis a fronte.* When the blood is not supplied with the material required by any particular tissue, that tissue exerts less power of attraction for the blood. The diminution of the attractive force of the tissues in anæmia has recently been insisted on by James, in a paper lately read, but not yet published. It seems highly probable that it greatly assists the malnutrition in causing valvular lesions.

This subject would be far from complete if no mention were made of heredity in connection with valvular disease. Recently two observers have brought forward facts in support of a transmission of tendencies to valvular lesions from parent to child. Leube puts before us very clearly the intimate relationship which rheumatism, chorea, and organic cardiac affections bear to each other, while Pierson brings forward a series of cases in which he observed the inheritance by children of the parent's predisposition to valvular disease. The latter author quotes Wunderlich's opinion that the older physicians gave too much weight to such a heredity, and the new attribute two little importance to it.

It seems to us that many of the cases of valvular disease apparently arising from anæmia really spring from some inherited tendency, for in our experience it has been a common observation that two or more sisters have suffered from the same insidiously developed cardiac trouble. In almost all of these anæmic patients the mitral valve was the one affected. Several of these seemed to be free from any rheumatic taint, but in many of those from whom no definite history, except as regards themselves, could be obtained, it is at least possible that there may have been a family history of rheumatism, or of endocarditis which, as Friedreich says, may be regarded as a sort of rheumatism.

Taking leave now of the diseases of valves we have lastly to consider their injuries.

From Harvey's time ruptures of the cardiac substance have often been placed on record, but so late as the days of Haller, no injuries of the valves were known. In an extensive and comprehensive memoir which has only lately come out, Barié places these facts before us, and gives a brief *resumé* of all the published instances of valvular rupture, to which he adds seven unrecorded cases. He shows that the earliest trustworthy observations are those of Corvisart, and cites in succession the experiences of Bertin, Laennec, Bouillaud, Henderson, Aran, Peacock, and Foster; after which he analyses the cases, and finally describes a series of experiments on the mode of production of valvular ruptures. He divides these injuries into two classes—the spontaneous, caused by effort on the part of the patient; and the traumatic, in which the injury arose from an external agency.

The total number of cases is 38. Of these, 19 affected the aortic valves, 10 of which were spontaneous, and 9 traumatic. In 11 of the aortic cases autopsies were obtained, and it was found that 6 had rupture of two valve segments, while 3 had but one segment injured. The segment most frequently damaged was the right or that next the interventricular septum.

The mitral apparatus suffered in 16 cases, of which 13 were spontaneous, and 3 traumatic. Autopsies were performed in 15 of these instances; 9 showed rupture of the tendinous attachments of the valves, 5 laceration of the muscular columns, and 1 injury both to *cordæ* and *columnæ*. In no case was there any damage to the valves themselves.

There are three cases of injury to the tricuspid apparatus, 2 spontaneous, and 1 traumatic. In these cases once a valve was damaged, once the fleshy columns were torn, and once also the tendinous attachments gave way.

Now in the whole series it is quite evident that spontaneous rupture is more frequent than traumatic, their numerical relationship to each other being 25:14. The causation of the spontaneous ruptures was found in great muscular efforts at work, the strain of a bad cough, or frantic attempts at respiration when suffocation was imminent. The traumatic ruptures were partly due to direct, and partly to indirect violence.

Barié has given considerable attention to the pathogenesis of these ruptures, and thinks that the surest key to their solution lies in a study of the physiological mechanism of violent efforts. Right sided rupture is brought about in this way: every effort raises the pressure in the pulmonary circulation, and therefore increases that of the right cardiac cavities. If at that time any violent strain, such as coughing, is induced, and simultaneously ventricular systole occurs, the tricuspid valve may give way. To us it seems that there must be some tricuspid peculiarity before rupture could occur, as the usual course is that free regurgitation sets in when the pulmonary pressure rises; it is however quite credible that the tension of the whole thorax in certain rare instances may keep the heart from any excentric yielding.

The valves of the left side are believed by Barié to undergo rupture by means of augmented pressure, due partly to peripheral resistance, and partly to increased tension on the thoracic and abdominal aorta during great effort.

He thinks that traumatic rupture of the tricuspid and mitral apparatus occurs during the diastolic period, just when the ventricles are nearly or quite full and before the sigmoid valves can open to the sudden and great increase of pressure. In the same way he considers that rupture of the aortic segments must be caused during diastole also, when the aorta is fully distended and no escape can be found save by an abnormal channel.

Experimentally Barié found that it was impossible to cause rupture of the pulmonary valves, and the same may be said of the tricuspid; for the only instance of injury which he was able to produce occurred in the case of a woman, aged 79, who died in the last stage of cancerous cachexia. The mitral valve was difficult to rupture; the easiest of all being the aortic. In this last it is interesting to note that the segment which most frequently yielded was the right, or that of the interventricular septum.

GEORGE A. GIBSON.

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# LOW'S LIBRARY OF STANDARD MEDICAL AUTHORS.*

THE enterprising publishers of Ziemssen's Encyclopædia have announced their intention to publish a series of Standard Medical Works to be issued monthly to subscribers only, the first volume being issued on the first of July last. We have received the series for 1881-82, and intend giving separate notices of each work, but speaking generally, we can express ourselves in terms of great praise of the manner in which the publishers have performed their promise to their subscribers. The following is the list of works published in this series:—Venereal Diseases, by E. L. Keyes; Minor Surgical Gynæcology, by Paul F. Mundé; Clinical Treatise on the Diseases of the Nervous System, by M. Rosenthal; Materia Medica and Therapeutics of the Skin, by H. C. Piffard; Diagnosis and Treatment of Diseases of the Ear, by A. H. Buck; Therapeutics, by A. Trousseau; Foreign Bodies in Surgical Practice, by A. Poulet; A Treatise on Continued Fevers, by James C. Wilson, M.D.

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* Low's Library of Standard Medical Authors for 1881-82. Twelve Volumes. Sampson, Low, Marston, Searle, and Rivington.

# VAN BUREN ON THE RECTUM.*

THE present edition of Dr. Van Buren's Work shows a marked increase in size over its predecessor. The author states that it has been his endeavour to make the Lectures suggestive rather than exhaustive. As a thorough treatise, the book, perhaps, is not quite on a par with some now in existence, yet it contains original matter and ideas that will be welcomed by those interested in rectal disorders, and will cause it to rank as a leading reference on the subjects it deals with. We are glad to find that the author advocates the vaginal speculum of Sims, slightly modified, as the best instrument for viewing the interior of the rectum ; it is, without doubt, the only satisfactory manner of seeing clearly any existing condition of the lower end of the gut. In dealing with internal hæmorrhoids, Dr. Van Buren has arrived at the opinion that, in a great many instances, especially amongst women, an hereditary tendency to the malady exists. The safest remedy for effecting a cure is stated to be strangulation by the ligature, although the clamp and actual cautery stand very nearly on a level ; and, we are advised in the choice of the two to avoid partisanship. Prolapsus ani, its pathology and treatment, constitutes the third, and one of the best lectures in the book. Here will be found a description of the author's method of linear cauterisation of the bowel for promoting a cure. The prolapse is first reduced ; a large sized Sims' speculum is then introduced into the bowel, and the cautery applied to the mucous membrane of the gut, in equi-distant vertical lines, from a point three inches above the rectum, to the integument covering the sphincter ani. If the operation is not quite a success, it may be repeated after a time, the new eschars being made between the lines of the old. It is admitted, that, sometimes in a very large prolapse, by adopting this treatment, a cicatrix of a somewhat constricting nature may follow.

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* "Lectures upon Diseases of the Rectum, and the Surgery of the Lower Bowel." Delivered at the Belle Vue Hospital Medical College, by W. H. Van Buren, M.D., LL.D. (Yale). London : H. K. Lewis, 136, Gower Street. 1881.

The varieties of polypi, of abscesses, fistulæ in ano, and fissure or irritable ulcer of the anus, are the subject matter of the next four lectures. After an experience of twenty years the author advocates forcible dilatation of the sphincter muscles, not only for ulcers, but also for painful spasms when no abnormality can be detected; the manœuvre adds to the certainty of a cutting operation, and is also useful as preliminary to operating for piles; no inconvenience has been known to follow its adoption.

Turning to the chapter on Benign Stricture, it will be seen that Dr. Van Buren has changed his opinion on the part played by syphilis in its causation. "The more I study the subject clinically the more I am disposed to regard syphilis as a pregnant cause of rectal stricture." This opinion fully coincides with that held by most English surgeons. It is thought that in the treatment of the disease the bougie has been over estimated, although it is extremely useful when the stricture has been pricked with the knife. The prognosis of benign stricture is, "almost invariably, sooner or later, a mortal disease." The subject of cancer is fully considered.

On the question of colotomy Dr. Van Buren is led by recent experience to prefer that the opening should be made in the left groin instead of the loin; the operation in that situation is more easily performed; more of the colon is preserved to exercise its proper function; the passage of the fæces can be more readily attended to by the patient himself; and he can lie on his back without discomfort. Attention was drawn to this plan of procedure in 1850 by the late Mr. Luke. Undoubtedly, until lately, the danger of peritoneal division has been greatly exaggerated; the statistics of the laparotomies performed at the Birmingham Hospital for Women are alone a sufficient proof upon this point. For excision of the rectum for carcinoma those cases only are considered admissible in which the finger can be carried well above the diseased gut. In nine instances of this operation with which the author has been connected all have recovered from its immediate effects, and in several instances a long lease of life was gained.

A chapter on congenital malformations, impaction of fæces, foreign bodies, and neuralgia, and some very sensible remarks on what is termed hygiene of the lower bowel, concludes an eminently practical book, in which the writer has expressed in a remarkably lucid and readable manner the outcome of a large and varied experience.

## CLELAND ON EVOLUTION.*

PROF. CLELAND will not add anything to his good scientific reputation by the republication of these six essays. While unable to wait patiently with those who believe that nature does, little by little, unfold to her faithful watchers the secrets of her operations, he adopts the extravagant doctrine, long since abandoned by most scientific thinkers, that the ultimate object of all evolution is man.

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* "Evolution, Expression, and Sensation, Cell Life and Pathology." By John Cleland, M.D., F.R.S. Glasgow: James Maclehose.

Dr. Cleland does not attempt to explain the occurrence of the whole order of insects which it would be very difficult to account for on this hypothesis, as well as other forms in which evolution has been evidently proceeding upon quite other lines than those which could ultimately lead to the development of such an organism as man. Dr. Cleland uses the old arguments derived from the old fallacy of man making himself the centre of everything in the universe; he is convinced of the evidence of morphological design, and uses teleological arguments in spite of all that has been done in biology in the last ten years to show that teleology is, if not false, a most unscientific method of approaching anatomical enquiries. But the imaginary opponents upon whom Dr. Cleland makes his special attack, are those scientific men who deny the existence of spirit in the philosophy of nature. There is much unprofitable discussion on this question, the merits of which are fully dealt with in the first chapters of Herbert Spencer's First Principles, on the knowable and the unknowable. Science is only ascertained knowledge; we know, certainly, only by means of our senses; what lies beyond the world of sense does not therefore come within the realm of science. Truly, it is the fool who has said in his heart, there is no God, for who shall say it? It is much to be regretted that men of science ever permit themselves to leave the fruitful fields of natural observation and experiment to wander in the barren plains of philosophical speculations, or to engage in the burning controversies of theology.

In other matters Prof. Cleland shows himself equally out of harmony with modern ideas. His essay on vision is not only very incomplete as a popular exposition, containing no reference to Kühue's beautiful discovery of the visual purple, but is blurred by the failure to take wide views of the nature of vision. The influence of light, it is almost superfluous to point out, is universally shewn in all organised beings, whether they possess eyes or not; it is a fundamental property of living protoplasm to react to the stimulus of light, and the specialisation of a part to receive the peculiar stimulus does not seem to us to require any recourse to the mystical necessity for a medium between spirit life and the material universe to which Dr. Cleland refers it. Dr. Cleland denies the localisation of cerebral functions, even denying that of speech, which he is so unfamiliar with modern observations as to still describe as located in the island of Reil. His theory of consciousness is quite as hard to understand as that ordinarily received, and requires greater assumptions.

The book is nicely got up and is probably regarded by the orthodox as a powerful answer to the scientific Philistine.

## MACLAGAN ON RHEUMATISM.*

THERE is no disease in the treatment of which a greater advance has been made during the last ten years than acute rheumatism, and this advance must always be honourably associated with the name of Dr. Maclagan, who, as early as 1874, began the use of salicin in its treatment. The accidental circumstance that the antiseptic theory led to the employment of carbolic and salicylic acids in Germany in febrile diseases, and thence to the discovery of the value of the latter in acute rheumatism undoubtedly robbed Dr. Maclagan of much of his claim to priority, but he is notwithstanding fully recognised as being one of the principal observers in this country to whom the modern improvement in the treatment of rheumatism is due.

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* "Rheumatism; its Nature, its Pathology, and its Successful Treatment." By T. J. Maclagan, M.D. London: Pickering and Co. 1881.

Dr. Maclagan is not a novice in medical authorship; he has written many papers and one or two books, a remark which will help to explain his success in manufacturing a volume of over three hundred pages out of the single subject of acute rheumatism; it required an experienced man to do it.

He discusses the various pathological doctrines which have been advanced respecting this affection, but rejects them all. The lactic acid theory is the only one to which he allows a basis of truth; he admits that excess of lactic acid is present in the blood, and may be a cause of some of the symptoms, but he holds that it could not be the true cause of the attack, something being necessary to occasion the excess of lactic acid, and that something being of necessity of a more lasting nature than the sudden chill to the external surface ordinarily invoked, which cannot reasonably be supposed to manufacture such a quantity of lactic acid as shall in spite of free elimination keep up an attack of acute rheumatism for many weeks. He holds that the true poison of acute rheumatism is a miasm arising from low and damp ground, and although this allegation must remain a matter of pure speculation for the present, it had the practical result of leading him to salicin as a probable remedy.

Dr. Maclagan prefers salicin to salicylate of soda or salicylic acid as a remedy. He says that at least an ounce of it must be taken before the pain and fever are relieved, and the dose should be therefore twenty to forty grains at first every hour, then every two hours as the acute symptoms begin to decline.

With reference to hyperpyrexia, he does not believe the high temperature to be *per se* a danger, but he regards it as an indication of a grave state of the nervous system which is best treated by the application of cold.

Dr. Maclagan has within the last year left his old home in Dundee to seek practice in the wider sphere of London. We wish him all the success which his talents and industry have so fairly deserved. His book is a valuable contribution to the literature of rheumatism, and will have a lasting value.

## PIFFARD'S MATERIA MEDICA.*

THIS volume is labelled on its cover as a "standard" work. Such a title is an anachronism when applied to any book, however good, before it has become accepted as an authority, but it is a flagrant abuse of language when appropriated to a crude and ephemeral production like Dr. Piffard's, which cannot maintain a shadow of a pretension to a prominent or permanent place in medical literature. A perusal of the author's preface would probably frighten most readers from attempting "the following pages." Although his meaning is rather obscure, from an insufficient elaboration of his antithesis, Dr. Piffard evidently considers it satisfactory to begin by assuring us that "he early became satisfied that a knowledge of the experience of the past should be the foundation on which to begin the study of the present." Impelled by this original and brilliant idea, he was "led to the collection of the material that forms the first part of this book." This first part is made up of a dreary catalogue of drugs which have been said to influence the skin, interspersed with a few bald observations about their several actions, and varied by lengthy quotations from the works of well-known therapeutists, the whole being mixed up with a liberal agglomeration of initials and figures of various types, which we gather are designed as compresssed and ingenious references to a bibliographical list at the end of the volume. The author opines, somewhat too confidently, we fear, that this part of his book will convey "a correct knowledge of the drugs that affect the skin and the ways in which they act." So prepared, the reader may pass on to the enjoyment of the treasures which await him in the second portion of the work. This said second portion is the poorest account of skin diseases we have lately met with. This part is even more freely padded with quotations than its predecessor. As an illustration we may instance the passages on the treatment of psoriasis. As a preliminary procedure, our author "slightly condenses" the statements of Wilson. Then, after our English dermatologist, Hebra, with cosmopolitan fairness, gets his turn; inasmuch as "the principles underlying the methods of these eminent men are in sharp contrast." Dr. Piffard actually gives us an unbroken run of twenty-one pages in inverted commas copied verbatim from the Sydenham Society's translation of Hebra's Lehrbuch. Besides the fault, which is a serious one, at least in a "standard book," of frequently recurring and lengthy quotations, we must also deprecate our author's clumsy errors of irrelevancy, which have led him to include a summary of syphilitic affections of the liver, kidney, and spinal cord in his account of specific lesions of the skin. In spite of its manifold defects, we can, after all, close Dr. Piffard's treatise with some satisfaction, for we have it on his own authority that "much has necessarily been omitted, enough, perhaps, to fill several volumes the size of the present one."

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* "A Treatise on the Materia Medica and Therapeutics of the Skin." By Henry G. Piffard, A.M., M.D., Professor of Dermatology in the University of the City of New York. London: Sampson Low & Co. Low's Library of Standard American Authors.

## THE LIVERPOOL MEDICO-CHIRURGICAL JOURNAL.*

We have great pleasure in giving a hearty welcome to this attempt on the part of our Liverpool brethren to maintain a local medical periodical. This journal will be published half yearly, in January and July, under the direction of a committee appointed jointly by the Medical Institution, and by an influential meeting of members of the profession, and it is intended that it shall contain original articles in medicine, surgery, and allied subjects, together with reviews and notices of books and the proceedings of the local societies.

The present volume contains several original articles, among them being one by Prof. Annandale, of Edinburgh, on the "Surgery of the Œsophagus." Perhaps the paper of most general interest is that by Dr. Davidson, recording the results of nerve stretching in two cases of locomotor ataxy, in one of which great improvement resulted.

The editorial work is evidently done with great care and efficiency, and the printing and general style and appearance of the volume are highly commendable.

We wish every success to this new venture, but we cannot help feeling convinced that the influence of a publication is, generally speaking, in direct ratio to the rapidity with which its numbers appear, and that a half-yearly publication can scarcely hope to be any more than a local success.

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* The Liverpool Medico-Chirurgical Journal, including the proceedings of the Liverpool Medical Institution. July, 1881.

# A GUIDE TO THE USE OF THE LARYNGOSCOPE IN GENERAL PRACTICE.*

We must confess with Dr. Gordon Holmes in his preface to this little book " that the Laryngoscope is still but little used in the ordinary routine of medical practice." We fear the same must be said of the ophthalmoscope, the thermometer, and a few other instrumental aids to diagnosis. To whatever cause or set of causes this result may be due we know not, but we cannot attribute it to the absence of proper guides to practical laryngoscopy, thermometry, ophthalmoscopy, &c.

There are many sound treatises upon the instrumental aids to diagnosis, and we think that this book is superfluous. The intrinsic merit claimed for it by the author is its brevity. It contains 60 pages with 15 illustrations, whilst in Morell Mackenzie's first vol. of Diseases of the Throat and Nose there are only 51 pages given on the same subject, together with more than 50 illustrations. The truth is there is just so much to say about the instrument, and how to handle it, and neither more nor less is satisfactory. Mackenzie has made it thoroughly clear, his last work being the most perfect treatise on the subject, and as we have urged before, it ought to be in the hands of every student and practitioner. It is only a waste of time and trouble to buy penny guide books, because so very much that is necessary is sure to be left out. Leaving this aspect of the matter, it is only fair to say that the usual particulars relating to the Laryngoscope and its uses are given without verbosity, and in a clear, concise manner.

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* "A Guide to the Use of the Laryngoscope in General Practice." By Gordon Holmes, L.R.C.P., Edin. Physician to the Municipal Throat and Ear Infirmary; formerly Chef de Clinique at the Hospital for Diseases of the Throat, &c., &c. London: J. and A. Churchill, New Burlington Street, 1881.

# THE LAWS OF THERAPEUTICS.*

THE author of this book is well known as a successful practitioner, who for many years styled himself a homœopath, but now repudiates the title. We presume his success in practice may be taken as the excuse for the publication of this book, which has for a motto on the title page, "Magna est veritas et prevalebit," and is dedicated to the "advancement and diffusion of truth."

Dr. Kidd's main position is that all we know of nature justifies the belief that there are laws of therapeutics, just as there are laws of physics, or as he says, laws of physiology. This is a position which it is not worth while to discuss; the question of practical importance is, not whether there are laws, but whether any have been discovered. Undoubtedly there are laws of physics, but there are very few propositions in physiology which can be formulated as laws, and we maintain, with the majority of the regular school of practitioners, that there are no known rules of therapeutics worthy to be regarded as fundamental.

However, Dr. Kidd says there are two, the law of contraries, which he calls Galen's, and which he is pleased to say regulates the practice of most of the regular schools, a law which leads to the administration of very large doses of poisonous drugs, often with very little benefit; and the other, the law of similars, "Hahnemann's law," which directs the administration of relatively small doses, with the happiest results.

He gives illustrations of both laws. Of the law of similars, his first three cases are, a case of eczema after vaccinia, treated by re-vaccination; another case of skin disease cured in the same way; and a case of gall stones cured by ten grains of ox gall, three times a day, three hours after food.

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* "The Laws of Therapeutics, or the Science and Art of Medicine." By Joseph Kidd, M.D. London: C. Kegan, Paul, and Co. 1881.

It is not very difficult to see how the treatment of eczema after vaccination by re-vaccination may be regarded as an application of the law of similars; but there does not seem to be any ground for such a view in the next case where the disease in no degree depended on vaccination. Most observers would see in it an instance of revulsive treatment. As to the case of the lady with gall stones, who was cured by inspissated ox gall, we admit we are quite unable to follow the reasoning which led to the application of the remedy.

The illustrations of the law of contraries are much less satisfactory. We are told that Vichy water may relieve acidity but cannot cure it, while acids can. Dr. Kidd knows very well that the treatment of dyspepsia by alkalies is disappearing not before the "law of similars," but in the light of sound pathology, which has clearly established that in every form of dyspepsia hitherto examined, the derangement is due to the diminution of the hydrochloric acid of the gastric juice, and that not "acids" but a particular acid, hydrochloric acid to wit, is needed to cure it. We are told further on, that belladonna has cured salivation from mercury; but where castor oil was given to cure a case of acute rheumatism, it killed the patient! Are these not choice specimens to put forward as the kind of treatment practised by those who are not homœopaths or quasi-homœopaths, but follow the "Galenic law?"

In a chapter entitled "Ars Medica," Dr. Kidd indulges his vanity by relating a number of cases where patients who had been treated unsuccessfully by other practitioners, were cured or relieved by him. But the first three are uterine cases treated by pessaries!! Then follow an intra-uterine polypus a constricted cervical canal, an anteverted uterus, a case of chronic gleet depending on stricture, a bleeding villous pile, an acute glaucoma, all of which were treated on the ordinary principles. Somewhat more noteworthy is the case of uterine irritation, cured by arsenic, but then we have a case of fissure of the anus, cured by division of the sphincter. The remaining cases are, noctural enuresis, cured by strychnia suppositories; sore throat, relieved by four drops of belladonna on sugar; fistula in ano, cured by eight drops of dilute nitric acid in water three times a day, without any local treatment; fistula in ano, cured by hydrastis canadensis, internally, and locally. This is the American cancer cure, and in an appendix, a case of alleged cancer is stated to have been cured by it. Then, finally, we have a case of "congestion of the brain with paralysis, coming on after confinement," with suppression of the lochia, cured by twenty drops of balsam of copaiba every two hours.

Here again we are quite unable to perceive the reasoning by which the administration of these drugs is deduced from either of the above so-called laws.

There are probably few, even among the less brilliantly endowed, and certainly many who make no pretensions to our author's therapeutic infallibility, who could not if they would, relate many cases where they have gained some credit from the previous failure of other practitioners, but there is no one, except Dr. Kidd, who has had so little memory for his own blunders, and so magnificent a conceit in his own powers of treatment as to publish such a list.

As to the cases of enlarged and indurated liver cured in a month by inhaling the vapour of an ounce of crude iodine exposed in a dish; of chronic Bright's disease cured by turpentine, and other cases already quoted, we can express no opinion. If we do not believe them, it is not from ill-will; we wish we could believe all the statements of cures that have appeared in medical writings; with Laugier, and with an older than he, we would plead, *Credo, Domine, adjuva incrudelitatem meam.*

## MUNDÉ'S SURGICAL GYNÆCOLOGY.*

FROM its numerous illustrations of appliances designed for the relief of the diseases special to women, this book has, at first sight, the appearance of an illustrated catalogue of a surgical instrument maker, rather than of a practical treatise on the minor operations of gynæcology, designed for the use of the advanced student, and as a work of reference for the busy practitioner. More attentive examination, however, convinces us that it contains a large amount of practical information, although this is presented in a somewhat too discursive manner, especially after we take into consideration the wants of those for whom it is intended. The first 115 pages for example, are occupied with details of modes of examination, and indications of the knowledge necessary to be acquired for conducting the examination of a patient supposed to be suffering from a disease of the generative organs. This part is almost exhaustively complete, and perhaps, because of such extreme fulness of treatment, is sufficiently prolix to deter any student from mastering the details. The observations on the significance of pain in uterine disease are, however, very good, and not too long, and may be read with profit.

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* "Minor Surgical Gynæcology." By Paul F. Mundé, M.D. Sampson Low, Marston, and Co.

The far too numerous illustrations in the book might be advantageously curtailed, especially those of the tables for examination purposes, the different kinds of specula, the modifications of Hodge's pessary, and the various syphon vaginal irrigators. Sims' speculum is, no doubt, in many cases a useful one, but too much prominence is given to it and its varieties, while on the other hand, some really serviceable specula are not mentioned. Another objection to the numerous woodcuts is, that they are generally inferior in execution; and the distinctly indelicate representations of the positions of a woman undergoing examination, might very properly be altogether dispensed with. We have always felt that such illustrations disfigure medical works, and that they are needless. The merest tyro in gynæcological studies would, from the use of the terms dorsal, lateral, &c., readily understand the position indicated, without these being delineated with rude plainness, and therefore, it appears to us that such engravings cannot serve any useful practical purpose. As regards the methods described by the authors, we must take exception to his plan of introducing a pessary, as a more expeditious and less painful method might readily be found. The practice of insufflation does not meet with much favour in the author's hands, but his remarks upon it afford evidence that he has not had any considerable recourse to this method of treating uterine disease. The summaries given at the end of some of the longer chapters are useful, and will probably be more generally read than the full text itself, as they contain, in a not too condensed form, almost all that is required to be known of the subjects treated of.

We cannot honestly say that the book supplies a want, or even that it adds to our present stock of knowledge, although it undoubtedly does bring into one view the existing state of minor practical gynæcological science, and may thus be acceptable as a compendium to those who have no time or taste for extensive reading. The distinguishing merit of the work is its eminently practical character, and one of its distinctive characteristics is the almost complete absence of reference to published authorities, or to the experience of other practitioners. In one sense, perhaps, this may be an advantage in regard to simplicity of statement, though the method is open to the obvious remark, that many facts which are not new are consciously put forth as the fruits of the author's experience. What the younger and less experienced readers require is to be put in possession of definite principles of modes of treatment, which have been proved by wide experience to be beneficial, and of truths clearly ascertained. Those who write for students should communicate as briefly and plainly as possible what they actually know about the treatment of disease, and should state with as little amplification as may be consistent with clearness, the rules by which they themselves are guided. Such information would be willingly, and even gladly read by those who go to books in their difficulties. But this rule the author in question has not adopted ; and therefore, his book is not simple enough for the student, and is too diffuse for the busy practitioner.

## RINGWORM, ITS DIAGNOSIS & TREATMENT.*

THE thanks of the profession are due to Mr. Smith for this valuable contribution to Therapeutics. He does not devote much space to a consideration of the nature of the fungus, but prefers to rely upon recent German investigations, and devotes himself mainly to the diagnosis and symptoms and treatment of ringworm of the scalp; though a sufficient account of tinea circinata corporis and its treatment are given, he omits to give any mention of its cure by sulphurous acid, which, mixed with equal parts of glycerine, has proved a quick and efficient remedy. The key note of the treatment of hairy ringworm is furnished on page one, in the statement "we have to destroy a fungus that is rapidly insinuating itself into the deeper parts of the epidermic strata of the follicles, and between the fibres of the hairs, and therefore fast getting out of the reach of remedies simply applied to the surface of the scalp." With the view of preventing a deeper infiltration of the fungus, Mr. Smith recommends that our treatment should be at the onset thorough and vigorous—if a case be recognised early and treated with any good vesicant it can generally be cured easily and quickly; but if neglected or treated with half measures, it soon passes beyond the reach of ordinary treatment, and becomes chronic and most difficult of cure.

Mr. Smith, as Resident Medical Officer of Christ's Hospital, London, has had unusual opportunity of seeing chronic and neglected cases of ringworm, and finds that where treatment has not from the first been thorough, the case becomes one of the extremest difficulty, lasting often for many months or even years. The oleate of mercury in these cases seems to have proved most satisfactory in his hands, though he speaks highly of a combination of sulphur ointment, nitrate of mercury and carbolic acid in equal parts, the two latter ingredients being somewhat lessened in quantity where the patient is very young or the skin tender. The ointment, whatever it be, must be thoroughly rubbed in, and its use continued until there are no more broken hairs, black dots, or scurfiness visible. In cases where a rapid cure is required, or the disease limited in extent, and very chronic, Mr. Smith recommends the production of artificial kerion. He uses for this purpose croton oil, which is applied with a camel's hair brush over a space not larger than a shilling, and followed by the application of a poultice; this proceeding continued every night for a week will generally set up a kerion, the hairs can then be easily extracted, and the cure will be perfect; this proceeding can be repeated in as many places as necessary, but it is unadvisable to attack any large surface or several small surfaces at the same time.

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* "Ringworm, its Diagnosis and Treatment." By Alder Smith, M.B., London, F.R.C.S. H. K. Lewis.

The book is eminently practical, well got up and very readable, and Mr. Smith must be congratulated on having made an important addition to the literature of practical dermatology.

# REFRACTION OF THE EYE.*

THERE is no doubt but that the difficulty of observing the fundus oculi caused by the refraction of the eye, which is so often a variable quantity, has been the reason why the ophthalmoscope has not long since become an instrument of daily routine use in the hands of our profession, as is so earnestly and frequently advised by Hughlings Jackson, and others.

As a proper acquaintance with, and understanding of the phenomena in ophthalmoscopy, caused by errors of refraction, is indispensable to all those who really wish to become competent ophthalmoscopic observers, this little work will be of the greatest value to all those beginning to study the appearances of the fundus oculi, in health and disease.

The plan followed throughout the work is a good one, namely, "to work out from the symptoms the nature of the defect, rather than to name the defect and then describe the symptoms accompanying it."

All the various phenomena caused by the different states of refraction, including astigmatism, are first described, shortly but clearly, and then explained in a concise, and practical, but thoroughly scientific manner; the explanations being assisted by diagrams where necessary. Moreover, not only is the mode of diagnosing errors of refraction by the ophthalmoscope given, but the method of estimating the amount of the various defects explained. The chapter on keratoscopy, or retinoscopy, as it is properly termed by the author, is very good.

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* "Refraction of the Eye." By A. Stanford Morton, M.B., F.R.C.S., Ed. H. K. Lewis, London.

Presbyopia is defined, and the old, or inch system, and the new, or metric system, of lenses described, a table of corresponding glasses of the two systems being appended.

The use of glasses and test types is shortly dealt with, the book closing with a short account of the effect of atropine, and its practical importance in ordering glasses, and some methods of detecting simulated blindness.

This little work is condensed into 57 pages, the statements are, therefore, necessarily brief, though clear and intelligible. It is a most valuable and much wanted addition to our students' text books; and is not intended to replace the larger treatises on the subject, but simply as an introduction to the study of ophthalmoscopy, for which purpose we can strongly recommend it as being both thoroughly practical and scientific.

# ORIGINAL COMMUNICATIONS.

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## ON THE PRESENT MEANS FOR THE CULTIVATION OF MEDICAL SCIENCE IN BIRMINGHAM.*

BY OLIVER PEMBERTON, F.R.C.S., ENG., PROFESSOR OF SURGERY IN QUEEN'S COLLEGE, BIRMINGHAM, AND SURGEON TO THE GENERAL HOSPITAL.

I venture to think, gentlemen, that the title I have chosen as a heading to the observations I am about to submit to your consideration cannot fail to be acceptable to all assembled here. All of you must be interested, more or less, in the growth of the healing art, and many of you, for the first time, appear within these walls to share the labours, the hopes, and I trust hereafter the rewards of those whose names as Students of Merit stand engraved in the record of this day's proceedings, and who are already gathering that fruit, at once the ripest and sweetest in all time—the fruit of early industry.

I use the term Medical Science in its widest sense, comprehending within its limits the art of surgery, dealing with injuries, as well as that of Medicine which seeks, by the administration of remedies, to cure or alleviate disease.

A little more than fifty years ago Mr. William Sands Cox, by founding a Medical School in Birmingham, of which our College is the lineal descendant, earnestly endeavoured to attract Students to this centre of education, and in this effort realised a success more than adequate to connect the remembrance of his work with that of the ablest pioneers of provincial teaching.

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* "On the present Means for the Cultivation of Medical Science in Birmingham." An address delivered at the opening of the Medical Classes, at Queen's College, October, 1881.

Now what were the materials afforded the Student at that time?

The number of beds in the General Hospital were 180; these being the only ones adapted for clinical teaching, for, though the Town Infirmary, as it was then called, numbered 134, the cases were of necessity, in the main, unsuited for teaching, and had they been otherwise would, I fear, have lacked a teacher. There were, indeed, something like 120 members of the profession in the town, yet of these there were only eight who were really in a position to offer any clinical instruction whatever. If I add to this particular opportunity for learning, that occasional lectures on scientific subjects were given at the Philosophical Institution in Cannon Street, the record is complete.

And here is a very curious circumstance to mention, the governors of the General Hospital of that day, by their Committee, absolutely refused to admit more than a limited number of pupils to witness the practice in the wards; the Physicians being allowed but twelve and the Surgeons a like number, and more wonderful still, this restriction was maintained until a quarter of a century later—until, truly, it could linger no longer, and finally died out as other obstructions have died which have tended in any way to interfere with that broad day light, in the face of which only can the safety of human life and the good repute of science rest assured.

This regulation had, however, one most happy result—it absolutely led to the foundation of the Queen's Hospital, which enduring monument of the best energies of William Sands Cox, claims, since 1840, no ordinary share of gratitude from the people of Birmingham, and at this moment enjoys the same repute, the same honour, the same consideration, that has been for a century enjoyed by its friendly rival.

I am afraid that very many students of Medicine entertain the idea that if they diligently attend lectures they have within their reach the chief part of their education. Well, I don't wish to undervalue lectures. Lectures, if given by men of learning in the theoretical chairs, and by men of experience in the practical ones, are of incalculable advantage in guiding the proper direction of thought and application, but they are too apt to divert men's minds from the dissecting room, the Hospital, and the dead house.

The great question of the day is, in what manner can the present system of education be altered so as to bring students once more face to face with medicine as a practical art—an intimacy, it is only too well known, that has been slowly but surely cooling from the time when the apprenticeship system ended, and Hospital dressing was curtailed.

Referring to this particular deficiency, the Committee of Council of the British Medical Association on Medical education, reported in January of the present year, being the sixth of their series of eight resolutions, "That before a student receives his licence to practise, he should produce a certificate of having studied for six months with a general practitioner, or in a public institution, where he has personal charge of patients at their homes."

This is little enough, but it was time to suggest something. In the introductory remarks of the same report, the statement of the late Dr. Parkes, made before the Medical Council in 1864, is as true now, as it was then. Dr. Parkes says, "I must say that in every examination we have had in the Indian service and the Army during ten years I have been an examiner, and during that time nearly 800 candidates had come before the examining boards, there have presented themselves on every examination a number of men so imperfectly prepared in the practical part of their profession, that we could not admit them into the ranks of the service. Every one of these gentlemen brought forward the double qualification." He said, moreover, "That the Medical Corporations are admitting a number of men into the profession who cannot practice their calling with safety to their patients."

The Committee calculated that according to the requirements, which are but little altered at this day, that in the space of fifteen months the number of systematic lectures, each lasting one hour, was about 700.

Now it does not at all follow that, because the examining bodies have not thought fit to make this practical learning more imperative than they have done, therefore, I should be silent on the matter. I have seen a good many men go out into the world "legally qualified" during the four and thirty years that, without a break, I have taken a share in training and teaching, and I am bound to admit that the majority who have gone forth have been lamentably ignorant of the practical duties they were about to undertake; in other words, their experience was likely to have no other source than that arising from a public too confiding in the guarantees of mere Academic or University records.

I take leave then from this, my stand point of observation, to tell you what I think you should do to amend this state of things, and at the same time conform to regulations that we all of us here must uphold as long as they are required at our hands, and these remarks apply especially to-day to students in their first year. Before or after morning lectures attend in the dissecting room as much as possible, when not there be present in surgical out-patient rooms, and post mortem examinations and in the wards, and on the days fixed for operations arrange to witness them from beginning to end, as you never can foretell what surgical proceedings may be going on, nor what important and unforeseen complications may have to be encountered.

If you follow this counsel honestly, I will undertake to say that not one amongst you need justify the rebuke administered by Dr. Parkes, when hereafter he bids farewell to our guidance.

Let me now inform you as to the means that are really within the reach of you all for the cultivation of Medical Science in Birmingham.

At this moment the clinical boards of the Hospitals—the General, the Queen's, and the Children's, afford the opportunity of study over an average number of some 440 beds, constantly occupied.

During the year 1880, upwards of 65,000 patients were received for treatment at these institutions, about 6,000 being in-patients and 59,000 out-patients. Among these 6,000 cases, patients with every variety of disease and injury are to be found, 3,500 being classified as surgical and 2,500 as medical.

Surgery, as one would imagine, in a community working as our mechanics work, predominates in point of numbers.

The detail is so remarkable and yet so brief, so suggestive of human suffering, and at the same time so overflowing to our minds with admiration at the skill that science offers for its relief, that I cannot refrain from directing your attention to a few particulars.

There were well nigh fifty large amputations, nearly forty cases of operation for stone, making, with other proceedings, such as excision of joints, hernia, and the removal of tumours, a total of 223 capital operations, or adding other operations, from ligature of large arteries downwards, a total of 553 in a single year.

What perhaps will strike you as yet more remarkable than all this is the amazing number of fractures of the larger bones as a result of injury or accident during a similiar period of time. Thus, the thigh bone was broken in 120 instances, the leg in 285, the upper extremity, including in its grim catalogue of pain and enforced idleness, collar bone, upper and forearm in every possible variety—a total of 952! To this add 50 cases of compound fracture, in skull and long bones, serious by complication of wound in soft parts as well as broken bone, and you cannot fail to acknowledge how great is the prospect of experience that is open to you in these particulars.

It is a mournful subject for reflection, but one we cannot shrink from contemplating and recording—the victories of the physician and surgeon are not realised without cost. The diseases and injuries of these 6,000 were not encountered with equal success in all instances, the fact standing that 400 amongst them succumbed to their maladies. Here, however, as elsewhere, in this country 400 such as these do not die in vain. The careful tracing out by post-mortem examination of the results of disease or injury carefully noted during life, clears away many a mystery that obscured diagnosis and prevented treatment.

There exists, indeed, in connection with those Institutions every facility for the study of morbid anatomy; and I am fain to confess that I know of no one circumstance connected with the practice of our calling that excites my admiration more than the fact, within my own knowledge, of how seldom are selfishness or sentiment in this district permitted to interfere with the lessons for the benefit of the living that may be learnt from the examination of the dead.

Would that prejudice and ignorance under the guise of benevolent sentiment were equally absent in another direction. I allude to vivisection.

Amid all the outcry, and out of the very clamour itself, sounding the names of those who appear in support of unreasoning condemnation, how curious it is to detect the shrill scolding voice of the female enthusiast; you can trace her influence in every movement of the new game. She writes to the press. One of them wrote to the local press here, a few weeks ago. The female enthusiast knows little of the world, and less of science. She can't reason, and she won't read—at any rate she won't read the account of those facts that have been brought to light only by vivisection, which, if she did, would make her shiver as she stood up, lest even her ill judgment should hazard the preservation of human life!

Good God!—to think of the monstrous cruelties practised daily under the name of sport, and of the unrelenting deprivation of so many animals of their sexual life for the convenience of man! Alas for consistency.

The thought would be ludicrous in its very absurdity were not the issues of life and death involved to our fellow men and women in the consideration, that these things go on daily with the wretched brutes at the hands of unskilled and unlicensed operators, and that an Act of Parliament—a valuable evidence of the collective wisdom of a Senate—an Act of Parliament restrains the hands of confessedly the most humane and disinterested race of men, the scientific observers—from what? from carrying out painless experiments on these very brutes, for the benefit of present, and possibly untold, generations of human beings.

Did anyone ever hear of anæsthetics being administered in the domestic operations to which I have alluded? Has Parliament interfered with this beneficial object in view?

But I digress, and I will only add that, if any of these anti-vivisection enthusiasts, and especially the female ones, desire light, allow me to inform them, that they will find it clear and lasting, and incapable of being extinguished by noise, in the address on Public Medicine, delivered at the recent Meeting of the International Medical Congress, by Mr. John Simon, C.B.*

I have, in alluding to the great theatre for your study (the combined hospitals), not said a word to you regarding Institutions in Birmingham which direct their attention to special diseases: such are the Eye Hospital, the Orthopædic, and Ear and Throat, or the youngest, the Skin and Lock—the student may have access to all and any of these by application to their several officers.

But I have more than a word to you to say about one of these that I have not yet mentioned—the Women's Hospital.

Now if anyone were to ask me what I deemed in my medical life that event which had secured the greatest amount of relief to suffering as well as had made possible operative proceedings previously deemed unjustifiable, my answer would be, the introduction of anæsthetics. Well the surgery of women's diseases has sprung from this absolutely and entirely.

The Women's Hospital here is open to students, but under strict regulations by its staff, enforced for the best reasons of sanitary precaution. The character and extent of the operative proceedings, their unequalled success in hospital practice, the novelty and boldness of some of the undertakings claim a distinction for this institution in the annals of local surgery second to none.

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*Lancet, August 20, 1881, p. 321.

The opportunities for practical study which I have detailed to you leave little to be desired. The realization of these rests with yourselves. There is, however, a portion of your training to which I would refer, and which, until recently, was not easy of access in Birmingham.

It is assumed that all medical students satisfy an examining board as to their proficiency in certain subjects pertaining to general education, such as evidenced in a sound knowledge of English and arithmetic, of Latin and mathematics; indeed, none can enter their names on the Register of the General Medical Council until this is done. There is a strong feeling entertained by those who have had the best means of judging, that whilst, as a matter of absolute necessity, these studies must take place before the commencement of professional ones, there should also be included in the observance, the study of physics, of inorganic chemistry, and generally the acquirement of an intimacy with the natural sciences.

These latter, indeed, do not press their attention on those contemplating the ordinary qualifications to practice, but are regarded as well nigh exclusively the means whereby the highest academical degrees in medicine are ultimately attained at the University of London. These constitute the preliminary scientific examination of that body, and in all instances should be passed previously to your entering as medical students, and immediately subsequent to registration by matriculating in arts.

Hitherto, the difficulties that beset the attainment of this knowledge of physics dismayed the best energies, and not unfrequently defeated the industry of the Birmingham students. Out of some 1,000 students that have been here since the foundation of the university in 1839, not more than 50 have attempted the undertaking, and of these about 14 only have become graduates. The rest abandoning the endeavour when probably half accomplished. All honour to the few, for apart from other distinctions, five gold medals, gained under difficulties, stand to our credit. For the first time can it be said that these obstacles are no more. The Science College of Sir Josiah Mason fills in the deficiency of medical education in Birmingham. Its scientific classes are complete and in working order. They are to the practical teaching of this college, what the University of Oxford and Cambridge are to the barrister, ere he reaches his Inns of Court in London. Henceforward, no man will be deprived of the fruits of his industry through imperfect training. He may commence the earliest steps of his work here, he can rest in the same place whilst he makes them perfect, and it will be his own fault, and his only, if he cannot attain all that his wishes or ambition may suggest.

No language of mine can adequately convey an idea of the value of the Mason's College to this town. It is only a small part of my gratitude, that it provides the deficiency I have referred to in your student life, as it has to be passed in special medical training within these walls.

To have witnessed the advance of a community like this, its devotion to free government, to the cultivation of the industrial arts, and bit by bit, to the development, under immense difficulties, of a love of that which refines and beautifies, is in itself no mean source of satisfaction. But no event in our history can measure in importance with that surrounding the foundation of Mason's College. The seventh of June, 1832, when the royal assent was given to the Reform Bill, secured to Birmingham those political rights so dear to all who live in a free country. May we not say that the 23rd of February, 1875, when Mason laid the first stone of the building in Edmund

Street, the fitting complement to the liberties of Birmingham was yet more secured in the certain assurance of the power of its citizens to attain knowledge?

That dream, the fragments of which Cox half a century ago faintly gathered, but could not realise, has already come true—"Birmingham has become the seat of a grand scientific and commercial College."*

Sooner or later, the creation of a University of Birmingham must follow on this beginning, within whose ample folds such elements of usefulness as we have, here or elsewhere in our midst, I, for one, fervently hope to see encompassed, and absorbed for the common benefit and enjoyment of all.

And now, gentlemen, I hope I have made clear to you that you are students of medicine in no common spot, and that your opportunities for acquiring information for reaching the standard of the day, are comprehensive and complete.

I cannot tell you of surroundings that ages of learned and generous leisure have accumulated in schools such as Oxford or Cambridge, nor can I expect you to believe that at any time the character of our public buildings or of our thoroughfares can emulate those which dignify and excite admiration in cities such as Edinburgh, Dublin, or Aberdeen.

It is my conviction that favourable impressions, refining influences, are exercised on youth by the spectacle of grace and beauty in external objects, and it is beyond my intention to under value them. But, let me ask you, Are not other sights equally capable of exercising the thoughts for culture and growth?

Here in Birmingham, science and commerce go hand in hand together. As the town has become rich by the industry and skill of its workshops, its prosperity has been turned to splendid account. Libraries have been founded! Yes, founded amid the din of hammers, in the very centre of a life of steam and smoke. This is so, and one man, and though I choose to mention definitely but one—let me tell you there are plenty to be met with taking the same way and doing the same thing—I say this one man who makes the best hammers and pincers, and generally what are called here "edge tools," that I know,* has established a library that stands as the most complete, the most marvellous amplification and record of the genius of Shakespeare that at the present moment is in existence. Truly, there is hardly anything in the shape of books that you cannot find in Birmingham.

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* June 18th, 1831. Address by W. S. Cox.

It is the same with art, and what is done with glass here, with gold and silver, and iron can compare without loss of reputation with even the master-pieces of ancient skill, when "time" was on the side of the workman.

Amongst libraries, specially important to you is the foundation of the Medical Institute. Here are now gathered together some 7 or 8 thousand volumes on subjects of medicine and surgery, and of the sciences interwoven with them. Your access to this library will be without difficulty and without cost.

I need hardly tell you that in the history and progress of medicine there exists a grand literature which should not be, altogether, as time goes on, an unknown quantity with you.

The class books, or daily companions, will be pointed out by the several professors and lecturers, but as to the mode in which the facts contained in them have been built up—to that, permit me for a moment to direct your attention.

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* Sam: Timmins.

The two thousand years and more that have passed in rendering medical science what it is, were not consumed without the occurrence of centuries of darkness and even of degradation. Greece—the land whence came, for the world that cared to learn, all that was calculated to found knowledge and truth—gave us Hippocrates, who four centuries before Christ succeeded in bringing into order and filtering the mythic traditions of his predecessors, leaving us at this day, in his imperishable writings, such a residuum that the very foundation of our medical literature rests, in many instances, unchanged on his labours.

Next Galen, who flourished in the very zenith of Rome's greatness, in the second century of the Christian era, and taught anatomy and surgery in the imperial city. Galen, in Rome, in its best day, enjoyed the ability and the power to make a fresh epoch. Thereafter, with the destruction of Rome, the world went back in learning, and it was not until the lapse of many centuries that in France, Ambroise Paré, establishing the ligature in amputation in place of the horrors of the cautery, made a third epoch, to be completed as time went on, in our own land in the last and greatest, that of John Hunter.

I bring before you these four names, called by a distinguished Professor,* the "four apostles of surgery," because they more or less aptly serve to indicate the direction of your enquiries in tracing out the writings of those who filled in the spaces left between these periods.

Your thoughts will turn to Alexandria, undoubtedly the cradle of anatomy, and where Galen himself learnt. After Galen, to the Arabians, thence to the names surrounding the teaching at Bologna, the earliest University.

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* Macleod.

It will repay you to learn something about Vesalius, the father of anatomy, of Fabricius, who did so much for operative surgery, and so onward through the multitude of glorious names fixed indelibly in our literature, and in the nomenclature of anatomical study. A very few cited convince us as to how they worked and what they left us. Fallopius, Eustachius, Glisson, Steno, De Graaf, Nuck, and Winslow. And so to the days of Hunter, and to search amongst the writings of the men who immediately preceded and followed him, Cheselden and Pott, Abernethey and Cooper.

These, then, faintly sketched, are some of the means for cultivating the art of medicine in Birmingham.

The road to them is wide and straight. You must, however, tread it yourselves. None of us here can more than direct your footsteps. The burden of responsibility you carry may be light or heavy; light it certainly will be with hope and truth graven on your hearts; and should any fall out by the way, as having lost hope, when help was probably most near, do you, the survivors, bestow on their memory the blessing belonging to a faithful comrade, to one, who has shared with you both labour and danger, and do you with hope renewed and truth abiding "fill in the ranks and march on."

# FOUR CASES OF HEPATOTOMY,

BY LAWSON TAIT, F.R.C.S., ETC.

READ BEFORE THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY,

DECEMBER 14, 1880, AND MAY 21, 1881.

I.—On the 15th August, 1880, I was asked by Dr. Thelwell Pike, of Malvern, to see a lady, Miss E. G., aged 37, whose illness had the following history.

Between 1870 and 1872 she broke down in health, suffered from obscure symptoms of which she can now give no very clear account, but which were referred, by three practitioners whom she consulted, to the spine. In 1872 she consulted the late Mr. Carden, of Worcester, who diagnosed some hepatic mischief, but gave no decided opinion.

In 1873 she had a severe inflammatory attack, the symptoms of which were regarded by her medical attendants as being due to diaphragmatic pleuritis. That illness continued for three weeks. Since then she has never been well, suffering from bilious attacks, swollen legs and feet, dyspepsia, inability to walk and great mental depression. She asserts that the right leg has always been more swollen than the left.

In 1876 she and her friends noticed an alteration in her size, she had to have her dress let out, her breathing became interfered with and an enlargement on the right side became apparent. This increased slowly till 1879, when it was evident that the whole of the right chest and abdomen were enormously increased in size, but it was not till February of this year that any attempt at diagnosis seems to have been made, and the opinion then seems to have been that the enlargement was due to malignant tumour. In July she came under Dr. Pike's care, and he diagnosed it as a case of hydatids of the liver, and this diagnosis was confirmed early in August by Sir William Jenner, who advised the use of the aspirator. Dr. Pike and Mr. Dawson, of Malvern, aspirated the tumour on August 11th, and withdrew a few teaspoonfuls of clear serum, enough to establish the correctness of the diagnosis of multiple hydatids even though they could find no scolices in it.

When I saw her on the 15th, I found her in such a condition that it was evident death from suffocation and exhaustion was imminent if relief could not be given. She was propped up in bed to relieve her breathing, and was vomiting incessantly. She was extremely emaciated, had a hay-like odour of her breath, pinched features and yellow skin, and all the symptoms of extreme exhaustion. The hepatic dulness extended from the third rib down to the umbilicus, crossing the middle line to the left all the way for about two inches, and much more at the lower margin. The whole of the right side was occupied by the tumour, no air was entering the right lung, the left was greatly interfered with, and the heart was pushed much over towards the left. Below the right ribs distinct fluctuation could be obtained over the tumour.

Acting upon the principle, which I have already advocated in previous communications to the Society, of opening the abdomen in all cases of tumours where life was threatened, and of the malignity of which there was no certainty, I had no hesitation in proposing abdominal section in this case.

Dr. Pike at once concurred in my proposal, and it was readily accepted by the patient and her friends.

I therefore returned to Malvern the next day (Aug. 16th), and performed the following operation: Dr. Pike gave ether, and I was assisted by Mr. Dawson and Mr. Raffles Harmar. I made an incision four inches long and about two inches to the right of the middle line, beginning at the edge of the ribs, and inclining slightly inwards towards the umbilicus. Having carefully secured all the bleeding points, I opened the peritoneum, and found that there was no adhesion of the liver to the wall, and that I had exposed healthy liver tissue. Into this I passed a large sized aspirator needle, and evacuated a few teaspoonfuls of clear serum, as had been done before. Removing the needle I passed my knife into its track, and made an opening large enough for my fore finger. I then found that the layer of liver tissue was from half an inch to three quarters thick. I then fixed a pair of Kœberle's catch forceps on each of the margins of the wound in the liver, and asked my assistant (Mr. Raffles Harmar) gently to draw them up as I enlarged the incision. This I did to the extent of about three inches, and the moment I freed my finger, myriads of transparent globes of all sizes, from a pea to an orange, shot out, covered the table and floor, and were afterwards picked off the floor all over the room. When the tension was relieved, I dug them out with a large silver gravy spoon, an instrument suggested to me by Dr. Pike, and this process took much more time than the whole of the rest of the operation, and during its performance, Mr. Harmar most skilfully prevented any cysts entering the peritoneal cavity, by keeping the flaps of the liver close against the abdominal wound. Finally, I perceived that my gravy spoon was causing some hæmorrhage from the inside of the cavity which had no kind of lining membrane, and I had to leave a considerable quantity of cysts in the cavity. In the cut surface of the liver, two bleeding points gave me some anxiety, but I closed them temporarily with Kœberle's forceps, and finally secured them in the stitches. These I applied by a common short needle and piece of silk in the continuous method, fastening the wound in the liver, through the whole thickness of the tissue, to the wound in the abdominal wall, so as effectually to close the peritoneal cavity; I then fastened in a wide glass drainage tube eight inches long. The quantity of hydatid cysts evacuated is estimated by Dr. Pike to be about two gallons, and I think the amount is not exaggerated.

The patient rallied well from the operation, and seemed to suffer nothing from shock. Her sickness ceased immediately after the operation and did not return, and her breathing became at once relieved, so that she could lie flat on her back, or on either side.

I saw her again with Dr. Pike on the 19th, when I found her without a bad symptom, eating well, entirely free from pain, and with the hepatic dulness contracted to almost normal limits. A large number of cysts had come through the tube daily with the discharge, which was faintly tinged with bile. Dr. Pike washed out the cavity twice a day with weakly carbolised water.

I saw her again on September 2nd, and found the wound healthy, that Dr. Pike had removed the stitches, and that the cavity held only about half a pint. Only one very small cyst had come away since my previous visit. I found also that she was gaining flesh rapidly, and eating well, her diet that day having included bacon, cheese, and porter.

The daily details of the case possess but little interest, beyond the fact that at the end of the first week a short (three-inch) wide glass tube replaced the long one, and in a fortnight more, a ⅜ rubber tube was inserted instead of the glass. Fragments of cysts continued to come away for about a month, and now (Oct. 17th) there has been hardly any discharge at all for a fortnight, and nothing remains but a sinus.

Dr. Pike notes that one day during the syringing out of the cavity, she had a sharp, sudden pain passing round from right to left. This lasted some three or four hours, and after that about half a pint of bile was passed from the wound, and the pain gradually ceased.

The patient herself writes to me that she feels now quite well, and is able to walk about alone, not quite eight weeks after the operation.

I have only to say that Listerian precautions had no share in the success of the operation. All their formalities were carried out with the assistance of plain cold water, and a spray of about one in a hundred, which most of the time was not on the wound. Since then I have employed water only for the spray, without carbolic acid at all, and my results have been quite as good as with Listerism, as I hope to tell in another paper.

II.—J. D., aged 56, was seen by me for the first time on February 5th, 1881, in consultation with Dr. G. P. Hadley, of Lozells, under whose care, in conjunction with Dr. Heslop and Dr. B. Foster, he had been for some months. Dr. Hadley has favoured me with the following notes:—He saw J. D. for the first time in August, 1879, when he had an attack of severe illness which was regarded as due to the passage of a gallstone. In January, 1880, a large tumour was discovered occupying the whole of the epigastrium, right hypochondrium, and extending downwards into the right iliac region. The tumour had an indistinct fluctuation. During 1880 the patient became greatly emaciated, passed generally clay coloured stools, and frequently had his urine deeply tinged with bile. In December, 1880, the cyst seemed to find an opening into the intestine, for the tumour became greatly diminished in size, and the patient passed large quantities of brick red fluid from the rectum. After this discharge the cavity seemed to re-fill in a few days, and the process was repeated at intervals. In January, 1881, the process of emptying seemed to cease, and it was proposed to tap the cyst, but on account of the presence of intestines all over the front of the tumour it was deemed more prudent to have an exploratory incision made, and I was asked by his attendants to undertake this. I had no hesitation in doing so, for I found the patient extremely emaciated with a distinct icteric hue, and evidently sinking. There was a very large cystic tumour apparently belonging to the liver, and on the 6th February I performed the following operation, assisted by Mr. Wright Wilson and Dr. Williams of Dyffrin, the ether being administered by Mr. Bennett, Dr. Hadley's assistant.

I made an incision about three inches in length over the tumour in the axis of the right rectus muscle, and about three inches to the right of the middle line, beginning about two inches above the level of the umbilicus. The peritoneum was easily reached, but there I found intestines and omentum glued everywhere over the surface of the tumour, and I had to exercise much care in dissecting them off so as to clear a part of the cyst about two square inches in area. There was however no adhesion between the parietal layer of peritoneum, and the subjacent intestines. I then passed my small sized trocar into the tumour and evacuated seven and a half pints of dark bilious coloured fluid. When the cavity was emptied completely I enlarged the opening made by the trocar so as to admit two fingers and came at once upon a loose mass which I removed, and which proved to be a slough of liver tissue weighing about one ounce. I then stitched the edges of the wound in the liver to those of the wound of the abdominal wall, and fixed in a glass drainage tube. The cyst was clearly the liver itself which had been distended into a shell with apparently a pretty uniform thickness of about half an inch. The fluid removed was carefully examined by Dr. Saundby, the Pathologist to the Women's Hospital, and found to consist of nearly pure bile mixed with pus.

The progress of the case must be given briefly, for there is very little to tell. No effort was made to conduct the treatment upon Mr. Lister's principles. The glass drainage tube was left in for about a fortnight, and then a piece of rubber tube replaced it. The temperature and pulse curves were almost normal, the patient's appetite rapidly improved, and upon my last visit to him (March 30th) there was very little discharge from the drainage tube, and he had gained fourteen pounds in weight in the seven weeks which had elapsed since the operation. (P.S.—He has gained forty two pounds since the operation, September 16th.)

III.—L. B., æt. 25, was placed under my care by Dr. Thompson, of Leamington, who had recognised the presence of a large abdominal tumour, which caused the patient much distress. She had been married four years, but had never been pregnant. Her illness began with a sudden attack of pain at the seat of the swelling, in September, 1880, and since then the tumour had steadily grown till I saw her in February. The nature of the tumour was doubtful. It was in the position of the right kidney, was moveable, but had an attachment above, which suggested an origin from the liver. No distinct fluctuation could be discovered in it.

On February 9th, assisted by Dr. Thompson, and Mr. Raffles Harmar, I made an abdominal section, and found it to be a hydatid tumour of the liver, which had no adhesion to the abdominal wall. I opened the capsule, which consisted of a layer of liver tissue, about a fourth of an inch in thickness, and scooped out the hydatids with a dessert spoon. They were of various sizes, from a pea to a small orange, and amounted in all probably to a pint and a half or two pints. I was very careful to cleanse out the deep cavity in the liver very thoroughly, and Mr. Harmar very skilfully kept the edge of the hepatic wound up out of the abdomen, so that none of the parasites escaped into the peritoneum. The wound in the liver was stitched to the wound in the abdominal wall, and a glass drainage tube was fastened in. The after progress of the case was uninterrupted recovery, no effort being made to conduct its treatment on Mr. Lister's principles. The glass tube was replaced by a rubber tube at the end of a fortnight, and she returned home to Leamington on March 9th, just a month after the operation, and there she is rapidly recovering under the care of Dr. Thompson, the drainage tube having been removed (April 23rd) and the wound is now nearly healed. (P.S.—This patient is now in perfect health, Sep. 16th.)

IV.—E. P., aged 21, and unmarried, was placed under my care by Dr. Wellesley Tomkins, of Leamington, in August last, for an abdominal tumour. This I recognised at once to be an enlargement of the liver, and unhesitatingly made a diagnosis of hydatid disease. Her illness began in April, 1880, with an attack of violent bilious sickness, followed by pain in her back and right side. The enlargement was noticed within six weeks, and had steadily increased. She suffered from repeated attacks of violent bilious vomiting. The hepatic dulness extended from the fourth rib down to an inch below the level of the umbilicus, and from the spine round to four inches across the middle line in front, and distinct fluctuation could be felt in the tumour below the ribs. I kept the case under observation from August till February, during which period she increased two and a half inches in girth over the lower ribs, and fell off markedly in health. I had many consultations with professional friends over the case, more particularly did Dr. Heslop give me valuable assistance. The question of course lay between aspiration and hepatotomy, and this could be decided only by our being able to recognise which of the two varieties of hydatid disease my patient suffered from.

No indication of this could be obtained, and having a lively recollection of the disastrous effect of aspiration in a case already published by the Royal Medico-Chirurgical Society, and further, having a growing distrust in aspiration for abdominal surgery, and an increasing confidence in abdominal section, I determined upon the latter. I, therefore, proceeded similarly as was done in the other cases. It turned out to be a large monocystic hydatid. The thickness of liver tissue through which I passed was nearly an inch, and I had a little trouble with hæmorrhage, which was, however, completely controlled by pressure. I fixed in a wire drainage tube after having united the edges of the two wounds, and replaced it by a soft rubber tube at the end of a fortnight. This latter tube I finally removed on April 13th, and on the 19th the wound was almost healed, the patient was getting about, eating well, and rapidly gaining strength. Possibly in this case it might have been better to have tried aspiration first, and that may be the opinion of some. I do not agree with this, however, and I see no reason to regret my action. I am growing more and more satisfied that all such cases will be best treated by abdominal section. (P.S.—This patient also is now in perfect health. I have operated upon three other cases of hydatids of the liver, in exactly the same way, and all have done well, Sep. 16, 1881.)

# NOTE ON THE INFLUENCE OF RHEUMATISM AS A FACTOR IN THE PRODUCTION OF VALVULAR DISEASE.

By George A. Gibson, M.D., D.Sc.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, AND LECTURER ON MEDICAL ANATOMY AND PHYSICAL DIAGNOSIS IN THE MEDICAL SCHOOL.

In order to satisfy myself with regard to the relative frequency of a rheumatic origin of valvular lesions, I have carefully examined my records of cardiac cases for the last three years. The total number of cases recorded is 134, and the larger proportion of these were observed at the Birmingham General Hospital.

I have arranged them in four classes:—1, cases in which the patient had personally suffered from rheumatism; 2, those in which there was a family history of rheumatism; 3, those with entire absence of any rheumatic history; and 4, those whose history was doubtful. The cases are also tabulated according to the valve affected—whether mitral or aortic, or involving both valves.

| | Mitral. | Aortic. | Both Valves. | Totals. |
|---|---|---|---|---|
| Patient rheumatic | 40 | 8 | 3 | 51 |
| Family rheumatic | 7 | 0 | 0 | 7 |
| No rheumatism | 26 | 8 | 0 | 34 |
| History doubtful | 30 | 6 | 6 | 42 |
| | 103 | 22 | 9 | 134 |

Under the term rheumatism I have included both acute and sub-acute forms of the disease; for my present intention is not to discover the inter-relationship of these, but their relationship numerically to other factors in the production of organic disease of the valves.

Eliminating the 42 cases in which no history was obtained, there remain 92 patients. If we add those cases in which the patient was rheumatic to these in which there was a family history of rheumatism we get 58 as the total, against 34 non-rheumatic cases. Of the total number of patients therefore with a distinct history, 63·05 per cent. were rheumatic, and 36·95 per cent. were entirely free from that disease.

All cases of mitral regurgitation due to relative incompetence of the valves have been carefully kept out of the above table, and only cases of undoubtedly organic disease have been retained. Of these cases 47 were rheumatic, and 26 non-rheumatic. Aortic disease was dependent upon rheumatism in 8 cases, and 8 patients had no rheumatic history. All the cases with disease of both valves were rheumatic.

These facts are interesting. From careful observation it has been clear to me that mitral disease arises frequently with entire independence, not only of rheumatism, but of every other acute or sub-acute form of disease. A large proportion of the sufferers from mitral disease is always to be found among anæmic women, and that malady must be regarded either as a cause or as a first step in the evolution of the cardiac affection.

Aortic disease appears to be as frequently found apart from rheumatism as in association with it. Probably most of the non-rheumatic cases are due to long continued strain on the valves. Finally, disease of both mitral and aortic valves appears to be almost invariably of rheumatic origin.

# ANTISEPTIC DRESSINGS.

BY J. RUTHERFORD MORISON, M.B., F.R.C.S., EDINBURGH.

THE following paper, which was read before the South Durham and Cleveland Medical Society, will, I hope, be of some interest in connection with the recent papers of Mr. Gamgee on wound treatment. I have added a case lately treated, shewing the advantages of the catgut suture and drain, as suggested in the paper, and as an additional example of what may be achieved by this method.

In 1877, Dr. Marion Sims wrote in the British Medical Journal, suggesting the use of cotton wool as an antiseptic dressing, and expressed astonishment that Mr. Lister, who had found it so useful as a filter for atmospheric germs, should not have thought it worthy of a trial for surgical purposes, apparently overlooking the fact that Mr. Lister had got rid of any germs which might have been residing in or on the wool by heat or chemical agencies before using it for filtration purposes.

After seeing this paper, I determined, when opportunity offered, to try cotton wool as a dressing, and to use it in place of the gauze of Professor Lister. It was evident that the dry surface of cotton wool, which had been exposed to the air, must serve as a resting place for germs, as it contained no germicide, and the wool serves only, as Mr. Lister has shewn, as a mechanical antiseptic; germs being unable to get through complicated passages. It was necessary, then, first to destroy any source of putrefaction on the surface of the wool, or at least to have an active antiseptic between it and the surface of the wound.

For this purpose, I used an ointment of Boracic Acid (Pulv. Acid. Boracic. ʒi, Adeps ℥i), and feeling satisfied with the result, have tried it in a number of cases where some exigency of private practice prevented the use of the ordinary gauze dressing.

My plan of proceeding is as follows :—

The parts to be operated on having been well washed, as in Mr. Lister's method, with a strong solution of carbolic acid (five per cent.), knives, sponges, fingers, instruments, and everything to come in contact with the wound, being carefully disinfected, and a spray kept playing during the whole time of exposure—ligatures, drainage tubes, sutures, and other necessaries attended to, and the wound ready for dressing, with the spray still playing over it—a piece of cotton wool spread with a layer half an inch thick of Boracic ointment, and sufficient surface of ointment to reach two or three inches round the edges of the wound is laid over it, and on this, layers of cotton wool, in quantity proportioned to the expected amount of discharge.

This may be left untouched from three or four days to as many weeks, if pain, constitutional disturbance, or the external appearance of discharge, do not indicate its removal.

The first case in which I had an opportunity of testing the dressing was one of purulent synovitis of the knee, in a delicate puerperal woman, on November 8th, 1877.

The knee-joint had been tapped three weeks before, and a semipurulent fluid withdrawn, but a further accumulation had taken place, which the severe constitutional disturbance, and character of the previously removed fluid almost proved to be purulent. The temperature on the evening before the operation was 103, emaciation, complete loss of appetite, and severe pain in the knee, preventing sleep, being the chief symptoms. The knee-joint was freely opened on both sides with the previously mentioned antiseptic precautions, some ounces of pus squeezed out, and a large-sized drainage tube passed into each opening.

The Boracic ointment and cotton wool dressing was applied, a continuous extension apparatus used to steady the leg, and the dressing left for four days, when the temperature was normal, and all pain had disappeared. As it was then impossible to estimate what amount of discharge might have escaped into the dressing, it was removed and found to be blood-stained, with a trace of pus, but odourless. The same dressing was reapplied, and in a month more the wounds were healed, the discharge always remaining small in quantity, and, after the first dressing, free from pus. Movement was moderately free in the joint, and the patient got out of bed, when unfortunately a chronic œdema of the leg, probably puerperal, set in and still persists, without detriment to her general health, but preventing her from getting about without a crutch.

I have since used the same dressing in amputations, strangulated hernia, excision of tumours, and have been well satisfied with it. Amputation of the finger, at the metacarpo-phalangeal joint, I have had heal in three weeks with one dressing, by using catgut ligatures, catgut sutures, and the catgut drainage skein, invented by Mr. Chiene, of Edinburgh. The whole hand, after disinfection, is rolled up in cotton wool, and, at the end of three weeks or a month, on removing the dressing, the knots and parts of the drainage gut, outside of the wound, are found lying loose, the remainder having undergone absorption.

Lacerated and smashed fingers, I always treat in this way, after previous thorough disinfection in carbolic acid, changing the dressing in from seven to ten days. Pain is materially less, the elastic support of the cotton wool securing rest, healing is more rapid by this than by any method I have seen adopted, while trouble and expense are reduced to a minimum. Ulcers of the leg, the size of a shilling, have healed in six weeks with one dressing of the same, and a thick starch bandage over all, the patient being allowed to go about during treatment, which, before Dr. Martin's bandage came into use, was certainly satisfactory.

The lard, melting in consequence of the body-heat, causes an oily solution of Boracic acid to permeate a certain depth into the wool, while Boracic acid, in substance, remains deposited round the wound, and forms a thin hard deposit on the inner side of the dressing.

While attending Professor Billroth's Surgical Clinic, in Vienna, in the summer of 1878, I saw used, in many cases, a modification of Mr. Lister's dressing, which served admirably. Sprays were rather deficient in quality, but, in spite of this, many of his cases did remarkably well. The wound was first dressed, after Mr. Lister, with protective gauze in large quantities, and immense pads of cotton wool over all, prepared with thymol, and fixed with a permanent bandage.

An excision of the breast, thyroid gland, or lymphomata from the neck, which are very large and common in Vienna, was left undisturbed a fortnight, unless the temperature shewed something wrong, and, on removing the dressing, in a large majority of the cases these extensive wounds were found united throughout, except where the drainage tubes and sutures (silk was always used for ligatures and sutures) prevented it. If catgut had been used for ligatures, sutures, and as a drain, the dressing would, I think, have been a perfect one, and healing might have been complete in the same time, as, when antiseptics were thoroughly carried out, the result was invariably satisfactory.

The difference in result of antiseptics, proper and improper, could be well studied in the same Clinic.

The first assistant, who ranks as assistant surgeon and house surgeon combined in this country, believed entirely in Mr. Lister's theory and practice, and tried, in every particular, to carry it out, from what he had read and seen, but had never been with Mr. Lister himself; while the second assistant had studied for six months in Mr. Lister's wards. Pyæmia, erysipelas, and bad results, were rife in the wards of the first, who was, by far, the better surgeon, and whose wards were superior, but, in the wards of the second, during my stay, there never was a bad case.

In conclusion I append the following recent example: Mrs. M., æt. 54 years, was operated on for scirrhus cancer of breast, on December 3rd, 1880.

The breast was of large size, and in addition to the portions of skin removed by the ordinary eliptical incision, a piece which was "moored" to the growth, of triangular shape, and of such size as to cause by its removal considerable tension on the edges of the vertical portion of the ⊤ shaped wound, left after completion of the operation, was also taken away.

The operation was conducted throughout with the most careful antiseptic precautions. Thick catgut ligatures were used to stop bleeding, and left long enough to hang out of the axillary end of the wound; two catgut skeins were stitched with catgut to two different portions of the pectoralis major, in such a position as to secure efficient drainage; 14 catgut sutures were used to carefully approximate the edges of the incisions, the upper flaps being necessarily tense from the amount of skin removed, and the wound covered up with a protecting towel dipped in carbolic lotion.

A piece of sheet cotton wadding already prepared for use, about 14 inches long and eight inches broad, thickly spread with boracic ointment was now exposed to the action of the spray, making the surface to be brought in contact with the wound, moist with a layer of carbolic acid solution.

The spray was again turned on to the wound, the protecting towel removed, and the anointed dressing applied. A thick pad over this above and below the transverse incision, another large thick pad over the axillary end of the wound reaching round to the back, and three layers of sheet wadding kept in position by a flannel bandage, one foot broad and six yards long, firmly applied, to exert compression on the pads beneath completed the dressing.

After progress: the operation was performed at 12, on December 3rd. Evening temperature 98°, pulse 112° Very sick from the chloroform.

December 4.—Sickness continued till 2 a.m. Free from pain. Morning temperature 100°, pulse 100; evening temperature 100·5°, pulse 108. Perspiring profusely.

December 5.—Morning temperature 99°, pulse 100, perspiring; evening, temperature 100°, pulse 100, perspiring. Dec. 6, morning temperature 97·5°, pulse 100, perspiring; evening temperature 99°, pulse 105, perspiring.

From this date the temperature and pulse were normal, and appetite returned. Never has any pain. Perspiration occurs at night as is habitual to her when in health.

December 9.—Sat up for four hours and walked about the room.

December 18.—Dressing removed for the first time. It formed a firmly applied hard jacket, the outside of which was free from any stain of discharge, but on the first applied layer of bandage a dry blood stain about the size of half a crown, and towards the centre, was exposed. The dressing was entirely free from odour, covered over the whole internal surface with bloody discharge, and contained the remains of the catgut sutures and drains.

The wound was healed and the parts presented the puckered, shrivelled, and firm appearance of an old operation site.

# ON MENTAL DETERIORATION IN EPILEPSY.

## I. EPILEPTIC DELIRIUM.

BY JAS. RUSSELL, M.D., F.R.C.P., PHYSICIAN TO THE BIRMINGHAM GENERAL HOSPITAL.

I propose to examine the condition of the mental functions as observed in epileptics. My observations will be based on 450 cases of epilepsy, of which I have notes. But there are two forms of mental infirmity presented by the disease in question ; there is a state of mental infirmity existing as a permanent condition ; there is also a purely temporary form of disorder, answering to the temporary attacks of motor derangement. The latter form, the so called Epileptic Delirium, will form the subject of the present communication, and I need say nothing to enforce the interest which attaches to this remarkable description of mental disorder, whether from a psychological or from a practical, and especially a medico-legal point of view.

I have noted 66 cases to which the term epileptic delirium is applicable, a proportion compared with the total cases mentioned above, sufficiently large to show that the mental disorder in question is of considerable frequency in the course of epileptic disease.

I will commence with the following case. It occurred in a lady whose family history presented a prominent neurotic element. She had three epileptic fits at the age of 19. They did not return until the age of 40, a year and half before the menopause. Her subsequent history comprises three years, during which period mild fits occurred with great frequency, and severe ones at intervals. She now also became subject to peculiar passing attacks of mental peculiarity, in which she would erect herself and walk across the room in a peculiarly stately fashion, not recognising anyone (an automatic condition from partial suspension of consciousness). She became also irritable, and some tardiness of apprehension was apparent to herself as well as to others. Four months later she spoke to her companion of a very troublesome "humour" of mind, which she called an "idea," but of which she could only say that it was an undefined thought, changing with each occasion, and always attended with a sense of dread. It is worth mentioning that at the same time peculiar paroxysms of vascularity, mantling over the face and neck, occurred, answering to Vulpian's Congestions Emotives (L'Appareil Vaso-Moteur, vol. II, p. 509). Thus matters went on for two years and a half, varied about every six weeks by a series of gravior fits, followed by slight mental disturbance.

At the next stage in her history, after three severe fits, followed by the usual slight mental disorder, from which, however, she had recovered, on the fourth day she became quite maniacal. She insisted that she was dead, and we found her stretched on the floor, almost naked, declaring that she was laid out. She resolutely refused food and medicine, was absolutely sleepless, and required to be constantly watched. In the course of two days she became more obedient, and rapidly recovered. She now spoke of a strange mental condition, which she called "a double life," consisting of another and a marked form of automatism, and characterised by temporary loss of control over the course of her thoughts, which ran through her brain independently of any volition. She talked to her friends of "circles within circles;" she was constantly rehearsing, mentally, tunes of all kinds, opera tunes, chants, &c, and was especially annoyed by the same tune remaining with her for a day or two, without her being able to change it. Then she became subject to sudden impulses, she would say she would like to throw her companion down, or to tear her to pieces, and occasionally even aimed a blow at her.

Her last series of convulsive fits occurred five months after the paroxysm of mania already described. Six days after these fits, she again fell into a maniacal paroxysm, lasting six days; it was partly hysterical in character, and was not attended with delusion, nor was she insensible to directions given her. She was again sleepless, but began to recover after three days, and nearly regained her normal condition, when she was attacked by consolidation of the lung, ending in fatal gangrene.

I have given this case in some detail, because it fairly represents the most characteristic features of the remarkable disease of which I am treating. Prominent in the history, is the sudden manner in which a complete change was at once effected in the patient's mental condition; the change was indeed led up to by certain obvious symptoms, but these symptoms bore no proportion as regards severity to the change which did occur. The changing nature of this form of delirium is also exemplified. But the most interesting feature of the story is the suspension of voluntary control, and the "reduction" of the patient for the time to an automatic agent, manifested in so delicate a manner; to which, indeed, the lady herself bore strong and painful testimony.

In this case the mental disorder was harmless, though indications of a more dangerous tendency were not wanting; such indications must be carefully sought out, and will often be discovered when the malady involves the sufferer in a criminal enquiry. In the following case, the mental change occurred after years of ordinary epileptic fits; it was of a highly dangerous character, and there had been nothing in the previous conduct of the patient to give warning of the coming peril.

A young woman, who had had an illegitimate child, and had suffered much trouble, had had epileptic fits for 23 years, with intense development of clonic spasm in the intervals; but had not manifested any tendency to mental derangement. One morning she had some unpleasant news about her child, and "seemed put about by it." In the afternoon, as she sat at tea, she suddenly began to scream; soon after as the nurse was leaving the ward, she was recalled by a cry from the patients, and found the girl attempting to cut her throat; she, however, made no resistance, but when put to bed lay quite quiet. The attack was followed by severe frontal headache for five days, ceasing with the rapidity so characteristic of epileptic phenomena; her head was quite cool, her pupils large and sluggish, the conjunctivæ free from injection. Eighteen months later she was found to be suffering from brief attacks of delirium, as sequel to slight convulsive fits. She died five years subsequently, epileptic to the last.

We have seen in the two preceding instances, that delirium, even dangerous to the patient or to others, may develop itself suddenly as an incident in a long series of epileptic attacks, possibly without any indication having been given of the coming change in the patient's conduct

It is needless to remark that the history of ordinary epileptic fits, preceding a sudden act of violence, will afford safe guidance to an opinion as to the circumstances under which the act was perpetrated; and that without fits having occurred, brief indications of suspended voluntary control, may possibly be detected in the patient's history. But there is no rule as to the period of an epileptic history, in which the mental change of which I am writing may occur. The case I am about to narrate will stand in contrast, in this particular, to the two former ones, and I would call special attention to the sense of compulsion under which the patient acted, a form of delusion occurring in many such cases. I have published (British Medical Journal, July 31st, 1880), a remarkable instance of this form of delusion, and have noticed also the half doubt respecting the reality of the "command," which was indicated by the patient's conduct; here consciousness was not perfectly suspended, and normal control was not fully removed.

A young gentleman, the victim of masturbation, applied to me in great distress, from the threatenings of advertising quacks. He had suffered two attacks of epileptic syncope. Some time afterwards, when abroad, he suddenly felt "a divine command," to put an end to himself, and to destroy certain manuscripts of a religious nature, which he had been translating for a friend. He remembers being impelled to hold his hand over the flame of a candle, as a punishment for having made these translations, and then making three attempts to cut his throat. Immediately afterwards he became unconscious, and was admitted into the hospital at Gibraltar, with three wounds in his throat, which had occasioned emphysema of the face and neck; he had, afterwards, a succession of convulsive fits, lasting three days.

By way of completing the picture, I may add a few particulars of the following case. A lady, aged 59, placed under unfavourable circumstances in respect of family history, and from family affairs, had, nevertheless, escaped her family inheritance until the present time, except two slight epileptic fits. I was called to her early in the morning, as she had been found in bed by her maid, unconscious, and in a state of typical epileptic collapse. I found her quite unconscious, perfectly pallid, chilly, occasionally sighing; but her pulse was steady, only failing occasionally, and the sounds of her heart were distinct. Her pupils also were contracted. Stimulants had no effect in rousing her, and she lay thus for three hours, giving cause for serious fear for her life; then reaction came on rapidly; she turned on her side and fell asleep. She was incoherent and excited through the day. Three weeks after this occurrence, whilst dressing, she suddenly became incoherent and violent, and was with difficulty restrained and put to bed, when she again fell into the same state of collapse, from which she recovered without any excitement. She never perfectly regained mental health, but remained fidgetty and confused, and at the end of a month she suddenly became violently maniacal, tried to get into the road, and it was only with much difficulty she was kept in the house; soon after she fell into a convulsion, and a violent epileptic fit ensued, followed by four or five others. She gradually lapsed into a very peculiar state of abstraction, rather than of unconsciousness, with some degree of right hemiparesis, and died four months afterwards, having had two or three other epileptic fits in the interval.

The late Dr. Thompson Dickson, in explaining the phenomena of epileptics, made much use of that suspension of the control, normally exercised by the highest centres, which forms so prominent a feature in the disease. This part of the subject has been expanded by Dr. Hughlings Jackson, in relation especially to the mental disorders apparent in epileptics. In various parts of his writings, Dr. Jackson selects for particular comment, the epiphenomena of the epileptic fit. His position is that the extinction of consciousness which attends the fit, indicates that the nerve cells constituting the highest centres, are involved, and that their controlling influence over the various lower centres is for the time removed ; as a consequence, the patient's mental condition is "reduced" from the normal volitional state, and a condition of "mental automatism," more or less complete, is temporarily established. Thus many of the acts of the epileptic may be accounted for, and thus may also be explained the variety observed among these acts in different instances, since it will depend on the construction of mind proper to each individual, what shall be the nature of the aberrant acts when higher restraint is taken away. Dr. Jackson frequently adduces, in illustration, the analogy afforded by the various phenomena of alcoholic intoxication ; the old proverb "*in vino veritas*," implying that when control is removed, the natural character shows itself. He makes the suggestion that in most cases of epileptic delirium, a fit of unconsciousness may have preceded the delirium, possibly unnoticed by the patient, and thereby have indicated that the highest centre had fallen into abeyance. Of course this latter suggestion will often fail of verification, and Dr. Gowers questions its universal applicability.

I have already pointed to the automatic condition exemplified by my first case. It was equally apparent in the two succeeding, where, however, it was united with the presence of distinct delusions. It would be too much to ascribe these delusions to the absence of normal inhibitory control, but the influence uncontrolled by reason which they exerted was very apparent in the impulse to violence, of which the patients themselves were conscious. "You are afraid to hang yourself: you daren't! you daren't!" one boy heard his persecutors saying to him, with gibes at his hesitation. It may, however, be noticed that the occurrence of delirium is sometimes connected with mental disturbance from without; it was so in my second case. Should it happen that the occurrence of some trouble or vexation happening from without, coincided with a temporary enfeeblement of the restraining power, it can readily be understood that the patient might be hurried to a deed of violence, which in his natural state would never have passed beyond the condition of a thought.

The most undisguised evidence however of the state of mental automatism in the epileptic is presented by the state of irritability, often leading to dangerous outbreaks of passion, which characterises the advanced stage of permanent mental deterioration; a tendency to the same condition is sufficiently apparent in even the earliest form of mental deterioration by the want of attention which belongs to the period. To this part of the subject I shall return on a future occasion. I will only introduce one remark, which has a general application to the mental condition of the epileptic patient. His disease allows him more or less prolonged periods of intellectual clearness, and these periods of mental health too often afford occasions for nourishing those apprehensions which the knowledge he probably possesses of the tendencies of his disease too often suggest. In the case, too, of the poorer classes, the spectacle, so peculiarly distressing, of a family gradually falling from a respectable station in life, through increasing disablement of an important member, must be present to the sufferer during his periods of mental clearness. To these sources of trouble and harass must be added the suspicions rising in the mind of the patient as to the intentions of his friends, perhaps of his nearest relative, of wife or husband ; such intentions as the circumstances of the case too often fully justify, but which are sometimes entertained prematurely, or enforced with heartless levity, but of which, under even the most favourable conditions, the sufferer himself is the last to recognise the justification. Under these circumstances, a state of mental unrest is engendered ; apprehension is constantly present ; disappointed ambitions vex ; family affection becomes a source of pain ; and under the unfavourable mental condition implied by the disease itself, one or more of these influences increase natural irritability, induce recklessness of life, or even a desire to have done with the trouble ; or else a state of suspicion creeps on into animosity against those towards whom that suspicion is directed.

I have met with ample attestation to this secondary source of mental disorder, and in no case more than in a family of epileptics in which I watched the gradual degradation of the members from a respectable station in life to a position of common mendicants, the fears of the asylum ever before their eyes, night and day, ending, in the case of one of the members, in self destruction.

These considerations must be regarded as possessing great force in relation to the pathological question ; but it must be evident that they also introduce additional difficulty as regards any medico-legal question which may arise. Whilst they remove from the patient the moral culpability which may attach to his violent conduct, they may also suggest doubts as to his legal responsibility, by an appearance of motive or of rational mode of proceeding which might be held inconsistent with legal innocence.

The doctrine of the reduction of the mental functions to a state of automatism in epilepsy has peculiar significance with reference to opinions lately expressed by Dr. Ringer, and adopted by other pathologists, in explanation of those nervous diseases, *e.g.*, tetanus, to which a morbid development of energy has usually been ascribed. The views in question suggest that it is more in accordance with evidence to explain such symptoms, *e.g.*, convulsions, by supposing that a morbid diminution had taken place in that inhibitory influence which, under ordinary circumstances, regulates the expenditure of the nerve power lying *en potence* in every nerve cell in unknown but, doubtless, in abundant quantity. The power which holds it in check being weakened, a comparatively feeble influence would be sufficient to release the restrained energy, and thus, as a feeble blow will liberate the energy in a mixture near the point of exploding, so in the epileptic, a trifling provocation sets free a burst of passion out of all proportion to its cause.

The most important point of view, however, from which this element in the pathology of epilepsy has to be regarded, I can only mention here: that aspect which has relation to the responsibility of a patient who commits a criminal action. This subject can only be adequately treated at greater detail than my space admits.

The three cases I shall now narrate will present another of the varied shapes in which the automatic condition of which I am writing exhibits itself. The present shape affords a more tangible illustration, because translated into bodily acts. The subject of one of these cases was a man who was liable to what he aptly termed "bewildering spells," they attacked him suddenly whilst at work, depriving him of consciousness; in that state he got up from his work half dressed, leaving his tools and his clothes, and walked away for a mile or a mile and half: then he would come to himself, "not knowing how he got there." A more whimsical development was afforded by a young man who had been subject for six weeks to paroxysms of "singing and dancing," in which though knowing what he was about (partial abolition only of consciousness) he was nevertheless unable to keep himself quiet; whilst talking to me in the out-patient room he suddenly gave a whistle, and then folding his arms, set on the step called "footing and heeling" round the room, at a rapid rate; he seemed about to strike himself against the wall, but stopped himself in time. In half a minute he suddenly came to a stand, looking pale, and turned to the fire with an abashed expression. Doubtless this peculiar development was determined by his amusement when at play; at night he was said to hollow and whistle. An in-patient was reported to be constantly in mischief; he amused himself by going round the wards and tearing the labels from the bottles, then he got up, made his bed and carried on a raid on his neighbours' cupboards. He was out of bed nearly all night; he abused the night nurse, to whom at other times he was particularly polite, and packed up his effects, together with sheets, cups, knives and forks, a bottle of olive oil, and all the bread he could collect, raving all the while about going home and declaring it to be his special desire to go in a cab. The medico-legal bearing of this case is of interest.

The unconsciousness, more or less complete, attending the condition of automatism, as is often the case with tipsiness, may be a safeguard as well as may constitute a danger. A boy was reported by his parents to run after the horses in the streets and among the omnibuses; he was often brought home by the police, who expressed surprise that he escaped being run over. Another boy, under the same influence, ran over the rails at the station in all directions: fortunately the trains were pulled up in time to save him; he was probably acting under some delusion, for he "screamed and hollowed" in the street: he cried out that people were running after him, and that his mother wanted to kill him, and he would kneel down in the middle of the road to say his prayers; he broke everything in his way, tore his clothes or put them on the fire.

It is always interesting to notice the connection which exists between the condition of health and that of disease; to trace, as we often may, the process by which the one passes into the other, and in the transition to recognise the proof that what we term disease does not differ generically from health, but that the same processes are involved in either state, working only under different conditions. In the present connection the analogy between the automatic processes just described and the phenomena of sleep-walking is very evident; the circumstances moreover under which each occurs are analogous; in each case suspension of consciousness takes off the normal restraint, and dangers are incurred with impunity, from which the patient in his waking state would have recoiled.

But sleep-walking has a still closer connection with epilepsy than that of analogy; one form of it, the nocturnal alarms of children, are sometimes but veiled fits of epileptic delirium, and constitute the forerunners of true epileptic fits. These occurrences should never be treated carelessly, and though, of course, harmless in a large majority of cases, it will happen occasionally that what may seem a very ordinary case of dreaming may be the first link in a terrible chain of events.

In the instances of epileptic delirium which I have adduced, the more serious form of the malady has been exemplified. I have selected them for that purpose. They have sufficiently developed the dangerous tendency belonging to many of these attacks.

It is not, however, in all cases that the disposition to commit damage, personal or to property, is the result of the delirium ; some patients are perfectly harmless whilst in this state, and may perform acts which are either ludicrous, or of a nature to place them in a very unpleasant position, were they aware of what they are doing. Some whimsical cases are given by Trousseau in his second lecture; they place the automatic condition of the patient in a clear light. Nor do these severe developments, though delineating the disease in its strongest characters, afford a complete view of what is comprised in the delirium of epilepsy ; the larger proportion of cases present a milder aspect of the malady, though still one which implies serious disqualification. The disease may exhibit itself in the shape of a brief fit of mischief, or of foolish talking, easily checked and soon passing away; at other times there may be "unmeaning conduct" of a more troublesome description, and the more difficult to keep in check from the irritability with which it is attended ; complaint may be made of a quarrelsome tendency requiring great care among friends in their intercourse with the patient, or even, in his presence, with one another. "Wild talk," "proneness to break things," "wandering about in an unmeaning manner," "trying to undress," all indicate various phases of a mechanical condition varied by exhibition of irritability, and readily aggravated into petulance or passion by trivial provocation. Incoherence and automatism, varied by irritability still form the basis of graver cases, which are often not free from evidence of passing delusions; the patient utters cries or shrieks or sudden appeals for help; he is in a state of undefined dread, and under the influence of this fear may suddenly start up and endeavour to cast himself through the window, or become abusive and pick up the first thing which comes to hand, to fling at the supposed aggressor: then in the next moment he may turn and express regret for what has just happened.

In analysing the cases of this form of epileptic development which have passed under my observation, it appears that the attacks may occur at any age, though with greatest frequency between 15 and 20 years of age. In one case derangement seems to have shown itself in the first year of life; in two cases at two years, in one at three, in one at five. On the other hand, in two cases the first attack of delirium occurred between 30 and 40 years of age, in one at 40, and in one at 51.

With respect to the period in the history of the convulsive disease, at which attacks of mental derangement first show themselves, the differences are equally wide. In seven of my cases, the disorder occurred from the very beginning of the epileptic attacks; in one case, a little boy had shown symptoms of mental aberration a year before any convulsive attacks were known to have occurred; in a young man, a severe attack of suicidal mania preceded his first severe fit. In thirty-three other patients, the dates in the epileptic history at which delirium appeared, varied between three months and twenty-three years; of these, in ten patients epilepsy had been present from one to five years; in eight, from six to ten years.

Again, the degree of importance in the history of the case, held by the mental affection varied greatly. Thus I may notice 17 cases, in which the attacks of mental disorder partook of the nature of an accident, rather than of an integral part of the disease ; four of these patients indeed presented epilepsy in an early form, but in all the others a more or less prolonged history of epilepsy was presented ; in three of the cases delirium of a very severe character only appeared shortly before death. On the other hand, I may adduce 40 patients, in whom the occurrence of paroxysms of mental derangement was either habitual, or else was of sufficient frequency and severity, to constitute a serious element in the history of the case. - In eight of the patients, the mental derangement consisted entirely of isolated attacks of mania of much urgency, ending in an asylum in more than one instance. Whether or not Dr. Jackson's suggestion, that delirious attacks in epilepsy are preceded by a fit of unconsciousness, be verified, it is certainly the case that the occurrence of the mental disorder has been known to be preceded by "fits" in a considerable majority of these cases; and Dr. Jackson's suggestion is supported, so far as my cases go, by the fact that the mental change has followed fits of all degrees of severity, the severe ones or the very slight ones. Moreover, the derangement presents itself alike after single fits, and also after a series. A few brief examples may be interesting.

A young man was subject for three years to very severe and dangerous attacks of mania, on one occasion, after a bout of 50 fits. The liability to mental derangement has now left him for several years, its cessation dating from the disappearance of mild fits, though gravior fits continue.

A young man sleeps after his severe fits, but his mild fits affect him much more severely ; "they play the bear with him ;" they leave him quite disordered, and the duration of the mental affection after them has advanced to two or three days or a week.

A patient was subject to severe delirium after his fits, on one occasion, after a fit so slight as almost to escape notice; and another patient suffered from severe delirium after a succession of "faints," which had occurred every half hour through one night.

On the other hand, a patient had batches of gravior fits, continuing two or three days; she is delirious all that time. Nine years ago she was perfectly deranged.

A patient, who had numerous slight fits, and, at intervals, batches of severe convulsions, and moreover, frequent attacks of slight mental aberration, suffered slight delirium after the batches of gravior fits, and at last, after a batch of these fits, became violently maniacal; a similar occurrence took place a few months later, consequent on a series of more numerous convulsive attacks.

The form assumed by the mental derangement of which I write is distinctly paroxysmal; it occurs suddenly and passes away, or it changes its character, as suddenly. It does not seem to have necessary connection with any particular state of permanent deterioration of mind; the preservation of mental clearness between the attacks is sometimes remarkable. But this observation must be taken as referring to the intellectual faculties only; when treating of the permanent state of mental health in the epileptic, I shall have to state that taking the case of epileptics in general, it appears that the proportion of instances in which mental power is placed on a permanently low level, is considerably larger (at least, in my cases), among the patients who suffer from delirium; this is only what would be anticipated.

In regard to the nature of the mental disorder itself, we may notice how closely it is connected with the character attributed to epilepsy. The sudden manner in which the paroxysms set in, so characteristic of the convulsive form, is copied by the mental ; as in the former so in the latter, often preceded by a "warning," thereby qualifying, in such cases, the accuracy of the adjective "sudden." As the status epilepticus protracts a series of convulsive fits without any interval of consciousness, so may a state of mental derangement continue for a day or two, or even for a week. How singular is this phenomenon, of an alteration amounting to a complete change of identity, suddenly induced, continuing through a considerable period of time, then clearing away almost as suddenly. The patients often attest the completeness of the change of mind of which they are sensible.

We may observe too, the impulsive nature of the mental outbreaks, and the changing character of the impulses themselves. The tendency to violence is of short duration, and of shifting character ; it may be the result of delusion, but the delusion is not fixed, and often is very changeful ; hence, no doubt, the great infrequency with which the attacks result in serious bodily injury, as compared with the frequency of the mental paroxysms themselves. And in the convulsive so in the mental fits, the patient has seldom recollection of what has occurred ; consciousness has generally been suspended ; or if not totally annihilated for the time, has been greatly impaired.

# REPORTS OF CASES.

## GENERAL HOSPITAL, BIRMINGHAM.

### Cases of Compound Fracture Reported by Dr. Barling.

THE following cases were treated in the General Hospital, Birmingham, during the past few months, and may be considered as fairly exhibiting the results obtained by the use of antiseptic dressings in the treatment of compound fractures. Several cases are purposely excluded in which the wound making the fractures compound was of such a nature that there is every probability that it would heal by the first intention under any dressing, or, at all events, without giving rise to any trouble.

Case I.—*(Under Mr. Bartleet.)*—J. S., a boy, aged 7 years, admitted November 16th, with a compound fracture of the tibia and fibula at the junction of the middle and upper thirds, caused by a heavy piece of floor cloth falling on the limb. The lower fragment of the tibia projected through a wound two inches long on the anterior surface of the leg. The wound was syringed out with 1-20 solution of carbolic acid, a drain inserted, the wound partly closed with three sutures, a dressing of gauze applied, and the limb placed on a Macintyre splint. For the first six days, the dressing was re-applied every day; afterwards, on the second, third, or fourth day, until the eighteenth day after admission, when a starch case was applied to the limb and the dressing renewed at the end of a week. In five weeks from the time of admission the fracture was firmly united and the wound healed; but a few days later, a small piece of necrosed bone separated, reopening the wound, which remained so for two months, when another sequestrum was removed. During this time, however, he was an out-patient, and running about as much as before the injury. The highest temperature was 100·5 on the second day, but this was only for a few hours; after this time it varied only a few points above normal.

Case II.—*(Under Mr. Pemberton).*—T. C., male, aged 18 years. Patient admitted on October 20th, 1880, suffering from a compound fracture of both femurs, from scalp wounds and very profound shock. His injuries were caused by his being caught in a fly wheel and whirled round, his legs coming in contact with adjacent objects. At the back of the thighs the fractured bones protruded in the wounds; they were reduced, the wounds syringed with 1-20 solution of carbolic acid, an antiseptic dressing applied, and the limbs adjusted to Liston's splints, with extension by means of weights. The dressings were not disturbed until the fifth day after admission, afterwards they were renewed every second or third day in accordance with the amount of discharge. At the end of six weeks both bones were firmly united, but there was a small wound discharging a little on each side, and examination with a probe showed a considerable piece of necrosis. The temperature varied during the first three weeks between 99·5 and 100·5, morning and evening, except on the 14th day, when the evening temperature was 103, apparently owing to a small collection of pus in connection with a scalp wound; when this was relieved the record sank to its usual level by the following day. He went to the sanatorium on January 8th, 1881, and has since presented himself for examination occasionally; on June 9th the sequestra were removed.

Case III.—*(Under Mr. Baker).*—E. J., male, aged 32 years, was admitted November 27, 1880, with a compound fracture of the bones of the leg, about the middle, caused by slipping off the pavement; there were two wounds, each about the size of a shilling, on the anterior surface of the leg, the edges were much contused and there was free hæmorrhage. The cleansing and dressing was similar to that employed in the last case, and the limb was placed on a Neville's splint. On the second day after admission the patient became restless and excited, and the following day he was suffering from delirium traumaticum, during which he removed his splints and endeavoured to tear off his dressing; the dressing was then renewed and his limb fixed in a Bavarian splint which kept it quiet and proved very useful, as he was so violent at times that he had to be restrained with straps during the next two days. The dressing was changed on the sixth day when there was a considerable purulent discharge, after this he was dressed every third or fourth day until January 5th, 1881, when the wound was quite healed and the fracture firmly united, but a few days later the wound re-opened and exposed a sequestrum which did not separate for some time, delaying his discharge until February 14th. The highest temperature of this case was 99·5, on the third day after the first week it was normal.

CASE IV.—*(Under Mr. Pemberton).*—S. H., male, aged 15 years, was admitted on December 5th, 1880, with a compound fracture of the humerus close to the head, there was a wound three inches long in the posterior fold of the axilla, through which the lower fragment had protruded, the finger passed into the wound detected the fracture passing irregularly through the anatomical neck and the parts below it, and, although no rent in the capsule of the joint could be detected, it is probable that such existed. The injury was caused by a fall from a ladder on to the arm. The wound was well cleansed with 1-20 solution of carbolic acid, a drain inserted, the wound closed with sutures and an antiseptic dressing applied, but no splint was used, the limb being fixed as for a fractured clavicle. The dressing was changed the following day, also on the third and fifth days, when the drain was removed, after which it was renewed twice a week until the commencement of the sixth week after admission, when the wound was healed and the bone firmly united. The highest temperature was on the night of admission, 99·8, on the second day it was normal, and remained so. There was some alteration of the contour of the joint owing to atrophy of the deltoid, caused no doubt by injury of the circumflex nerve at the time of the accident, but the movements of the limb are now quite free, except that which should be executed by the deltoid, this is replaced imperfectly by a rotation of the scapula.

Case V.—*(Under Mr. Baker).*—C. S., male, aged 30, was admitted December 30th, with a crush of the right leg caused by a railway trolley passing over it; there was a skin wound over the extensors seven inches long, and five inches wide at its greatest breadth, the muscles were considerably lacerated, the septa between them being opened up, and the bones were fractured at the junction of the upper and middle thirds ; in fact Mr. Baker debated the propriety of amputating, but eventually determined to attempt to save the limb. The wound was well washed with 1-20 carbolic, all effused blood removed, and four drainage tubes introduced, exits being made at the most dependent parts, and an antiseptic dressing was applied, the limb being then placed on a Neville's splint. The dressing was reapplied in ten hours, his temperature then being 99·5, it was renewed every day until January 6th, the highest temperature being 100·5, and there was not much suppuration.

January 18th.—Now dressed every second day, healing going on well, temperature hardly varies from normal.

January 25th.—Now dressed every third day.

February 20th.—The antiseptic dressing replaced by boracic acid, as there is now only a small wound skin deep.

On April 5th, when wound was reduced to the size of a sixpence, and the fracture quite firm, a severe attack of erysipelas commenced at the wound ; this delayed his departure from the hospital until May 5th, when he left with a sound limb, which I learn he is now using with considerable freedom.

Case VI.—*(Under Mr. Pemberton).*—J. R., male, aged 55 years, was admitted February 1st, with a compound fracture of the tibia and fibula, an inch and a quarter above malleoli ; the fibula protruded through the wound, and was with difficulty reduced ; it was probable that the ankle joint was opened, as there was considerable effusion into it. The injury was caused by a fall. The limb was treated as in the last case, excepting the drains ; the dressing was re-applied in 24 hours, and again on the 4th day, when his temperature had gradually risen to 102, and there was albumen in his urine, but nothing could be detected amiss with the fracture ; on the 6th day, however, a collection of pus was found a little above the wound ; this was relieved, and his temperature gradually sank, until the 15th day, when it was normal, and never again reached 100. The dressing was now renewed every 2nd day, the albumen had disappeared from his urine.

Five weeks after admission there was severe hæmorrhage from the wound, and as it could not be controlled by pressure, the leg was amputated at about its middle, and the patient left the hospital on May 7th. On examining the fracture it was found that considerable repair had taken place, and that the fracture of the tibia was vertical as well as transverse, and this communicated with the ankle joint, which contained some drachms of blood ; the seat of hæmorrhage could not be discovered.

Case VII.—*(Under Mr. Pemberton.)*—M. B., a female, aged 62 years, was admitted February 27th, with a compound fracture of leg, through a wound two inches long, over the tibia, about three inches above the malleolus. She had broken her leg when drunk, the previous night, and going to bed in that condition, had rendered the fracture compound. The wound was dressed as related in previous cases, and the limb placed in Cline's splint ; the first dressing remaining three days before it was disturbed, and then four days elapsed between the second and third dressings. Twice a week became her routine dressing until April 15th, when the limb was placed in a starch case, and she was discharged on April 30th, cured. For the first seven days her temperature did not go above 99, but it then suddenly went up to 101 ; and a small collection of pus was found over the front of the tibia, this being relieved, her temperature went down to normal and remained so. A small sequestrum was removed at the end of the second week.

In the present day compound fractures of the extremities are regarded with less apprehension than formerly, and though there are several causes for this, one of the most important is the confidence in antiseptic dressings to prevent septic absorption at the seat of injury ; as proof of this confidence may be instanced the readiness with which compound fractures are now made by the surgeon in the various osteotomies when done with Listerian precautions, invading not only bone tissue, but in some instances opening joints also. In the large majority of these cases there is an almost complete absence of constitutional disturbance, and they may be regarded as typical of the healing it is possible to obtain in compound fractures. But in those cases that have not been created by the surgeon there are several conditions which may cause some departure from the type, viz :—contusion of the soft parts and their irregular division, the greater violence done to the bone, and the possible infection of the wound before it is brought under treatment.

The important points in the treatment of accidental fractures are to thoroughly cleanse the wound either with carbolic acid solution or some other disinfectant, to remove as far as possible extravasated blood, and to insert drainage tubes wherever it is possible that fluids may collect, making counter openings for this purpose if necessary. The method of dressing used in the reported cases departed somewhat from that used by Professor Lister. It was as follows:—protective was applied over the raw surface, the limb wrapped in a layer of damp gauze, and then in a thick coating of salicylic wool (strength 10 per cent.), over this a layer of gutta percha tissue, the whole being retained in place by gauze bandages. Salicylic wool is a better dressing than gauze owing to its greater power of absorption rendering the need of dressing less frequent, whilst it seems to act quite as efficiently as an antiseptic. It is of interest to notice in cases I. and III., that the wound healed and afterwards broke down again, exposing necrosed bone. This is probably due to the fact that the inflammatory process at the injury is so mild that little effort is made for a time to separate portions of bone whose fate is at first doubtful, and as they are closed in by the healing soft parts until movement of the limb or some other accidental disturbance gives light to a more active process which determines their separation.

In Case VI., although the attempt to save the limb failed, it cannot be laid to the blame of the dressing; in fact it was creditable that there was not more constitutional disturbance with a compound fracture of two bones which implicated one of the largest joints in the body.

It rarely happens that a compound fracture heals without suppuration, owing to the necessary separation of dead fragments of bone and of the soft parts, of which the normal method seems to be the formation of a line of granulations at the junction of the dead and living tissues, the softening of the superficial layers of the granulations causing the falling off of the dead fragments, and producing pus; therefore the presence of pus does not necessarily imply the presence of septic matters, in fact constitutional disturbance is generally absent; although it is true that retained pus will sometimes give rise to some fever, yet it is of a mild character. Antiseptic dressing is preferable to any other in these cases, for the following reasons, viz.: that the patients run less danger from blood poisoning; that with an absorbent material, dressing is rendered less frequent; that it is very comfortable to the patient; and last, though not of least importance, that the diminished local action at the seat of injury causes less matting together of the soft parts, so that movement is attained earlier, and in a more complete degree, than where there is more extensive inflammation.

# MEDICAL NEWS.

*The Indian Medical Service.*—We have received the Report of the Committee of the Indian Medical Service Defence Fund, and we are glad to be able to congratulate them on the success of their labours, and to thank them on behalf of the profession for their efforts to retain a noble branch of the Service in a position which shall enable it to continue to attract to its ranks some of our best Students. The speedy accomplishment of the objects for which the Fund was started proves how much power may be exerted by the profession when properly organised, and in the acknowledgment by the Committee of the great aid they received from the British Medical Association, we have a strong argument, if any were needed, of the value of that noble organisation. It is a matter of extreme pleasure to us to be able to speak well again of the Indian Medical Service as an opening for those starting in life.

*The Midland Medical Society.*—The Inaugural Meeting for the Session, 1881-82, will be held at the Grand Hotel, on Wednesday, October 19th, when an Address will be delivered by Dr. Clifford Allbutt of Leeds, on "Surgical Aids to Medicine."

*The Queen's College.*—The Winter Session in the Medical Classes will be opened on Tuesday, October 4th, by an Introductory Address by Prof. Oliver Pemberton, which we print in full elsewhere.

The Prizes and Certificates will be delivered after the Address.

## PRIZE LIST, 1881.

*Medicine*—Professor B. Foster, M.D.

| | |
|---|---|
| Medal and First Certificate | Frank Leslie Phillips. |
| Second Certificate | Arthur Thomas Holdsworth. |

*Surgery*—Professors O. Pemberton, F.R.C.S., and F. Jordan, F.R.C.S.

| | |
|---|---|
| Medal and First Certificate | Henry Leonard Swinson. |
| Second Certificate not awarded | |

*Pathology*—Professor E. Rickards, M.B.

| | |
|---|---|
| Medal and First Certificate | Arthur Thomas Holdsworth. |
| Second Certificate not awarded | |

*Anatomy*—Professor W. Thomas, M.B.

### SENIOR DIVISION.

| | |
|---|---|
| Medal and First Certificate | Charles John Evers. |
| Second Certificate | Edward Dennis Vinrace |

### JUNIOR DIVISION.

| | |
|---|---|
| Medal and First Certificate | Charles Edwin Purslow. |
| Second Certificates . . . Æq. | George Hyde Melson.<br>Arthur Frederick Messiter. |

*Practical Anatomy*—Demonstrators B. May, B.S.. Lond., & H. Eales, M.R.C.S.

### SENIOR DIVISION.

| | |
|---|---|
| Medal and First Certificate | Charles John Evers. |
| Second Certificate | John Dudley Price. |

### JUNIOR DIVISION.

| | |
|---|---|
| Medal and First Certificate | Charles Edwin Purslow. |
| Second Certificate | Arthur Frederick Messiter. |

*Physiology*—Professors R. Norris, M.D., T. H. Bartleet, M.B , & A. H. Carter, M.D.

| | |
|---|---|
| Medals and First Certificates . . . Æq. | Charles John Evers.<br>John Dudley Price. |
| Second Certificate | Arthur William Scott. |

*Practical Physiology*—Professors as in Physiology.

| | |
|---|---|
| Medal and First Certificate | John Dudley Price. |
| Second Certificate | Arthur William Scott. |

*Chemistry*—Professor A. B. Hill, M.D.

| | |
|---|---|
| Medals and First Certificates . . . Æq. | Charles Edwin Purslow.<br>George Hyde Melson. |
| Second Certificate | James Bernard Wall, |

*Botany*—Professor W. Hinds, M.D.

| | |
|---|---|
| Medals and First Certificates . . . Æq. | Charles Edwin Purslow.<br>George Hyde Melson. |

*Materia Medica*—Professor J. Sawyer, M.D.

| | |
|---|---|
| Medal and First Certificate | William Aston. |
| Second Certificate | George Hyde Melson. |

*Forensic Medicine*—Professor J. St. S. Wilders, M.R.C.S.

| | |
|---|---|
| Medal and First Certificate | Frank Leslie Phillips. |
| Second Certificate | Charles John Evers. |

*Midwifery*—Professors J. Clay, M.R.C.S., and J. Bassett, M.D.

| | |
|---|---|
| Medal and First Certificate | Frank Leslie Phillips. |
| Second Certificate | John Dudley Price. |

*Practical Chemistry*—Professor A. B. Hill, M.D.

| | |
|---|---|
| Medals and First Certificates . . . Æq. | William Aston.<br>Thomas Young. |
| Second Certificates . . . Æq. | John Woodward Crowther<br>— Richards. |

| | |
|---|---|
| *Sands Cox Prize* | Arthur Thomas Holdsworth. |
| *Ingleby Scholarship* | Frank Leslie Phillips. |

## CLINICAL PRIZES.

The President of the Clinical Board will distribute the following Prizes awarded by the Clinical Board:

| | |
|---|---|
| *Senior Medicine* | Andrew Fuller. |
| *Junior Medicine* | Charles J. Evers. |
| *Junior Medicine*, commended | Thomas Birt. |
| *Senior Surgery* | Cecil Birt. |
| *Junior Surgery*—First Prize | A. W. Scott. |
| *Junior Surgery*—Second Prize | R. F. Thornton Perkin. |
| *Clinical Midwifery* | Frank Leslie Phillips. |

## RESIDENT HOSPITAL APPOINTMENTS.

*(Gained by Competitive Examination).*

| | |
|---|---|
| *Resident Dresser*, Queen's Hospital | Frank Leslie Phillips. |
| *Resident Medical Assistant*, General Hospital | R. A. Fitch. |
| *Resident Surgical Assistant*, General Hospital | Cecil Birt. |
| *Resident Dresser*, General Hospital | J. R. Polson. |
| Ditto ditto ditto | S. Summerland. |
| *Resident Dresser*, Queen's Hospital | T. H Summerhill. |
| Ditto ditto ditto | S. C. Lawrence. |
| *Resident Medical Assistant*, General Hospital | Andrew Fuller. |
| *Resident Surgical Assistant*, General Hospital | Septimus Sunderland. |
| *Resident Dresser*, General Hospital | Arthur H. Hart. |
| Ditto ditto ditto | E. D. Vinrace. |
| *Resident Dresser*, Queen's Hospital | J. W. North. |

## MEDICINE AND PATHOLOGY.

THE MICROSCOPICAL APPEARANCES IN A CASE OF ATHETOSIS.—Dr. Fletcher Beach, Medical Superintendent of the Darenth Asylum, publishes the following interesting note.

The chief changes noticed were—1, great increase in the number of vessels; 2, distension of many of these vessels; 3, extensive infiltration of the tissue with leucocytes, especially in the perivascular sheaths of the vessels.

These changes were seen especially in the grey matter of the right inferior parietal lobule and first temporo-sphenoidal convolution. Examination of this part showed great infiltration of the white and especially the grey matter with leucocytes. The perivascular sheaths of all the vessels presented these bodies, which in some places formed a single layer, in others many layers, being in such quantity as to compress the vessel they surrounded.

Generally they were rounded, but, where subjected to pressure, they assumed an oval or angular appearance. In several places, the vessels were much distended, and their sheaths filled with leucocytes, while further on the walls were absolutely crammed with these bodies, exerting pressure on the vessel, and reducing its lumen considerably. In two places, the leucocytes had escaped into the surrounding tissue. Here and there they were collected into dense masses, forming so-called "miliary abscesses." Very often the leucocytes were in such numbers as to entirely obscure the vessel, so that its course and distribution could only be seen by the direction taken by them. Many of the vessels contained clot, and in a few cases mixed with it were rounded bodies, which stained with carmine, showing their recent character. In some of the vessels, the blood corpuscles had undergone a granular change, and in two specimens the clot appeared dark in the centre, the surrounding portions shading off gradually. In one vessel, the clot presented curved pressure-lines, with their long axes across the vessel, described by Dr. Gowers as being due to exposure to pressure by the blood-current. Many of the vessels were surrounded by spaces. The nerve-cells generally were unaltered. The grey matter of the left inferior parietal lobule and first temporo-sphenoidal convolution, and that of the left occipital convolution, showed excess of leucocytes, but no great excess of vessels. A few of these presented perivascular sheaths filled with leucocytes. In order to be certain as to the amount of change present, these sections were examined side by side with some from a man killed by an accident. The appearances described are very similar to those present in the medulla from a case of hydrophobia, exhibited a few years ago by Dr. Gowers at the Pathological Society. That the changes should be most marked in the right side of the brain, is no more than might be expected from the symptoms existing during the life of the patient.—British Medical Journal.

FATTY EMBOLISM IN DIABETES.—Dr. Marshall L. Brown relates a case of diabetes mellitus in a lad, aged 16, in which fatty embolism seemed to be the cause of death. The second or third day before his death he walked several miles, and dined out. On the morning of the day of his death he made arrangements to go into town to see his attending physician; but as the morning advanced, feeling an uneasiness and uncomfortable sensation in his stomach and bowels, he concluded to have A— come out and visit him. On arriving at noon, he found his patient suffering from diarrhœa which had come on during the forenoon, attended with considerable pain and quickened heart's action. In the course of a few hours, the pain suddenly moved up to region of the heart. He immediately asked to be fanned and to have the windows opened. The pain and dyspnœa constantly increasing, a physician near at hand was called in, and found the patient dying. The dyspnœa rapidly increased, he became as rapidly cyantoic and died. At the partial autopsy, portions of the stomach and bowels were found injected, the liver, kidneys, and spleen, were somewhat enlarged; there was no amyloid reaction with iodine; the lungs were generally œdematous; the heart was of normal size, pale; the walls of the right ventricle were thinned, and the whole right side was filled "with black tarry masses of blood, intermixed with coagulated masses of a white substance, resembling in consistence the curdled milk vomited by a nursing child, and in colour the white substance of the brain. These masses varied in size from a large pin's head to a large pea." A collection of them, two to five inches long, filled the pulmonary artery, and was more adherent and firmer. A portion of these masses was examined under the microscope by one of the physicians present, and found to consist wholly of fat.—Boston Medical and Surgical Journal.

DUBOISIN IN EXOPHALMIC GOITRE.—Desnos reports three cases, in which much relief followed the hypodermic injection of half a milligramme to one milligramme of the neutral sulphate of duboisin daily, or every two days. The results were diminution of the conjunctival redness, of the palpitations, dyspnœa and precordial distress.—Bull. de Thérap.

FLUORIC ACID IN GOITRE.—Dr. Edward Woakes, recommends the use of fluoric acid internally in the treatment of goitre; he combines it with other constitutional treatment, and with injection of iodine into the substance of the tumour. The doses in which it was given were as large as half a drachm three times a day.—Lancet.

THE TREATMENT OF ASTHMA.—Dr. William Murrell recommends nitre paper, prepared in the following manner:—Pieces of white blotting paper, six inches square, are saturated in a hot concentrated solution of chlorate and nitrate of potash. Six of these pieces are laid one over the other so as to form a thick tablet. Before quite dry the pieces of paper may be individually sprinkled with Friar's balsam, camphor, or some other aromatic. When used the tablet is to be folded like a book cover and placed with its edges on a plate and then lighted. —British Med. Journal.

COMPOUND SENNA POWDER.—The following is a simple formula for this favourite powder:—Powdered Liquorice, powdered Senna, each two drachms; precipitated Sulphur, powdered Fennel seeds, each one drachm; powdered White Sugar, six drachms.

VIDAL'S LOTION FOR DIPHTHERIA.—Tartaric Acid, 10 grammes; Hydrolate of Peppermint, 25 grammes; Glycerine, 15 grammes. Paint the patches every three hours, and in the interval touch them with lemon juice. —La Presse Med.

## New Books &c., Received.

1. Introductory Lecture on Diseases of the Ear. By THOMAS BARR, M.D. Glasgow: Alex. Mcdougall.—2. Report of the Sanitary Committee of the Ventnor Local Board.—3. Evolution, Impression. and Sensation. By JOHN CLELAND, M.D., F.R.S. Glasgow: James Maclehose, 1881.—4. Syllabus of Materia Medica. By ALEX. HARVEY, M.D., and ALEX. DYCE DAVIDSON, M.D. Fifth Edition. H. K. Lewis, 1881.—5. Refraction of the Eye. By A. STANFORD MORTON, M.B., F.R.C.S., Ed. H. K. Lewis, 1881.—6. The Harrogate Waters. By GEORGE OLIVER, M.D. London: H. K. Lewis, 1881.—7. Ringworm, its Diagnosis and Treatment. By ALDER SMITH, M.B., F.R.C.S. H. K. Lewis, 1881.—8. Heart Starvation. By J. R. FOTHERGILL, M.D. H. K. Lewis, 1881.—9. Surgical Cases. By W. NEWMAN, M.D., F.R.C.S. H. K. Lewis, 1881.—10. On the Treatment of Nævi by Electrolysis. IBID.—11. Lectures upon Diseases of the Rectum. By W. H. VAN BUREN, M.D., LL.D. H. K. Lewis, 1881.—12. Throat Diseases and the Use of the Laryngoscope. By W. DOUGLAS HEMMING, F.R.C.S., Ed. J. and A. Churchill, 1881.—13. 1. Chatel Guyon, Auvergne. By G. H. BRANDT, M.D. 2. Royat. Auvergne. By G. H. BRANDT, M.D. H. K. Lewis.—14. Notes on Midwifery. By J. G. REYNOLDS. J. and A. Churchill.—15. Deaf-mutism, and the Education of Deaf Mutes. By D. ARTHUR HARTMANN. Translated by JAMES PATTERSON CASSELLS, M.D. Baillière, Tyndal, and Cox, 1881.—16. Principles and Practice of Operative Surgery. By STEPHEN SMITH, A M., M.D. Sampson Low, Marston and Co. 1881.—17. A Treatise on the Continued Fevers. By JAMES C. WILSON, M.D. Sampson Low and Co., 1881.

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**Analysis of THE MEDICAL PRESS AND CIRCULAR,**
**May 12th, 1880.**

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One or more SYDENHAM SCHOLARSHIPS, of the value of Thirty Guineas each, will be awarded annually by the vote of the Council to the Orphan Sons of Medical Men.

One or more QUEEN'S SCHOLARSHIPS, of equal value, will be awarded after examination.

These Scholarships are limited to the Sons of Medical Practitioners.

Further information on application to the Warden at the College.

# THROAT HOSPITAL TROCHES,

Prepared (at the recommendation of a local Physician) by C. J. ARBLASTER, according to the Pharmacopœia of the Hospital for Diseases of the Throat. The following are those chiefly recommended, and their use in different cases, according to the Throat Hospital Pharmacopœia:—

"**Troch: Acid: Benzoic,** a 'valuable stimulant and voice lozenge' in cases of nervo-muscular weakness of the Throat. **Troch: Althœæ:** 'emolient.'

**Troch: Acid Carbolic:** 'antiseptic.' **Troch: Acid: Tannici,** 'strongly astringent.'

**Troch: Cubebæ,** 'very serviceable in diminishing excessive secretion of mucus from pharynx, larynx, or trachea. These lozenges closely resemble Brown's Bronchial Troches, of much reputation in America and Europe, but black currant paste is employed and less gum and sugar.'

**Troch: Sedativi. Troch: Guaiaci. Troch: Krameriæ.**

**Troch: Lactucæ. Troch: Potass: Chloratis.**

Being made with black currant paste, these lozenges will be found (where an *immediate local effect* is desired) preferable to those of the Pharm. Britannic."

**Red Gum Lozenges** (Eucalyptus Rostrata) of Australia, recommended for relaxed uvula and Throat. **Guarana** (see Dr. Wilks on Headaches). **Eucalyptus Globulus** (tincture and extract), 'Fever Tree.' **Pepsina Porci,** Bullock and Reynolds. *Troch. Pepsinæ Porci.* **Kirby's Pilul Phosph.** c Quiniâ et Nuc Vomicæ. Pil: Phosph: c Ferro. Ol Morrhuæ c Calcis Hypophosph.

Tinct. Tayuyœ, Gelsemini, Hydrastis, &c.

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At last Investigation, on 31st December, 1880, the surplus amounted to £624,473, of which, after reserving one-third (£208,150) as a guarantee, the balance of £416,323 was divided among the members entitled to participate. Policies for £1000 were increased to sums ranging from £1170 to £1300. Policies which had shared before were of course further increased, and in some cases have already been doubled.

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**Annual Premiums for £100 at Death (with Profits).**

| AGE. | 25 | 30 | 35 | 40 | 45 |
|---|---|---|---|---|---|
| During Life ............... | £1 18 0 | £2 1 6 | £2 6 10 | £2 14 9 | £3 5 9 |
| Twenty-one Payments | 2 12 6 | 2 15 4 | 3 0 2 | 3 7 5 | 3 17 6 |

The Premiums in the former column are about the same as the usual non-participating rates of other Offices. Other rates on application.

## SUMMARY OF NEW BUSINESS IN 1880.

**New Assurances**—1769 for £1,054,566 with £36,635 of New Premiums.

**Premiums** received, £399,538; **Income,** including Interest, £566,444.

**Ratio of Expenses** under 10·2 per cent. of Premiums, and 7·1 of Income. Excluding Income-Tax (as is done by many Offices), the **Ratio** is to Premiums **9·4**, and to Income **6·5** per cent.

**Accumulated Funds** (increased in year by £283,922), **£3,913,252 : 0 : 10.**

REPORTS *with* STATEMENT *of* PRINCIPLES, *and* PROPOSAL FORMS *may be had at the Midland Branch:—*

95, COLMORE ROW, BIRMINGHAM,

**GEO. A. PANTON, F.R.S.E.,**

Resident Secretary.